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SPECIAL COLLECTORS EDITION

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- Pearl Harbor's railroad
- Long hours on the Santa Fe
- GI engineer in Europe
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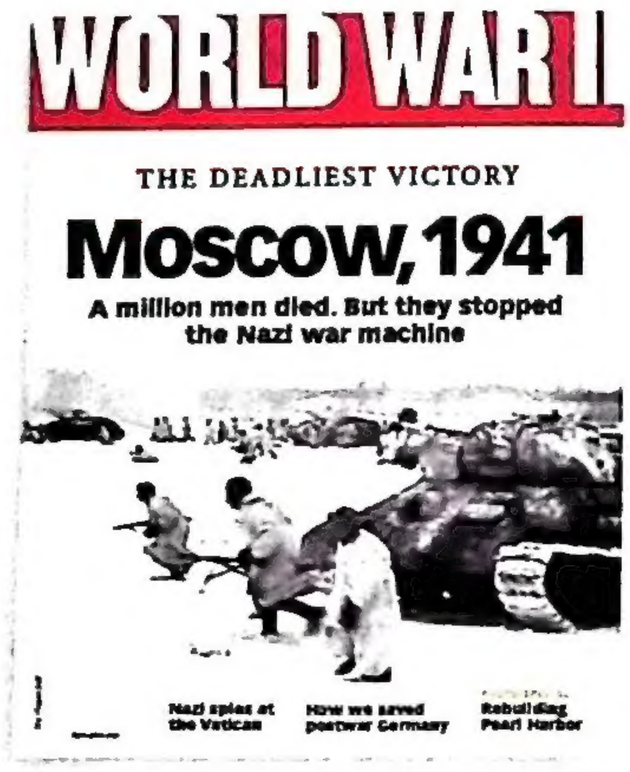
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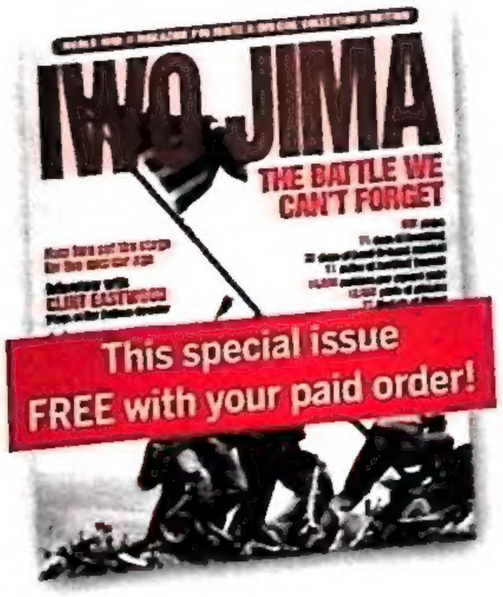

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Railroads and World War II

CLASSIC TRAINS SPECIAL EDITION NO. 6 • 2008

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Great people made possible the railroads' finest hour

A decade ago, journalist Tom Brokaw coined a name for the Americans who lived through World War II in the title of his best-selling book, *The Greatest Generation*. Although young men and women of other eras met their challenges with bravery, compassion, and determination, those who came out of a great depression, won a global war, and went on to build the world's most prosperous nation were indeed extraordinary.

It's fitting, then, that several of the articles in this CLASSIC TRAINS Special Edition about wartime railroading are centered on people. Our leadoff story [page 8] looks at how the railroads coped with the tens of millions of civilians and service personnel who flooded the trains during the war. Next [page 16], an Army man assigned to monitor tank production at Lima Locomotive Works tells how the plant's people, not the machines they built, made the strongest impression on him. Stories about President Roosevelt's train trips [page 20] and the locomotives renamed for General MacArthur [page 32] bring two of the war's great leaders into the picture.

"Trains in White" [page 34] examines the rail cars devised for the passengers in need of the most special treatment of all: wounded servicemen. In his photos of the railroads during wartime [page 42], Jack Delano frequently focused on railroaders. Touching examples of human kindness in adverse times are found in our stories of a Baltimore & Ohio nurse-stewardess [page 58] and the volunteer-run depot canteen at Dennison, Ohio [page 74]. A retired Santa Fe man recounts the exhausting life of train and engine crews during the war [page 94]. Finally [page 100], an Army Transportation Corps veteran remembers running trains in Algeria, Italy, France, and Germany.

PENNSYLVANIA RAILROAD

During the war, travelers from all walks of life and every corner of the nation mingled at Pennsylvania Station, New York.

We haven't ignored railroad hardware, of course, but without the people of that "greatest generation," World War II would not be remembered as railroading's finest hour.

Robert S. McGonigal

Railroads and World War II

Classic Trains Special Edition No. 6

CLASSIC TRAINS SPECIAL EDITION NO. 6 ★ 2008

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On the cover: Pennsylvania Railroad's 1943 calendar featured the heroic painting *Serving the Nation* by artist Dean Cornwell of Uncle Sam, U.S. industry, war freight, and a PRR 4-8-2. *Classic Trains collection.*

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★ Contributors ★

DWIGHT AKERS ["Inside Lima," pages 16-18] sold this story to TRAINS Editor David P. Morgan in 1987. He's had no other bylines in TRAINS or CLASSIC TRAINS.

ARTHUR H. BLEICH ["Kodachrome on the Home Front," pages 42-51] is a photographer, writer, and educator who lives in Miami. He does assignments for major publications both in the U.S. and abroad, conducts digital photography workshop cruises, and runs the Digital PhotoCorner Web site (www.dpcorner.com). This is his first article in a CLASSIC TRAINS publication.

KENT W. COCHRANE [photos, "Boom Times in Paradise," pages 62-69], a native of Connecticut, was a Coast Guardsman stationed in Oahu during and immediately after World War II. He died in 1967.

JACK O. ELWOOD ["Maximum Effort," pages 94-99], a retired Santa Fe engineman who lives in Fresno, Calif., has had a half dozen previous bylines in CLASSIC TRAINS and its special editions.

ROBERT S. GILLESPIE ["Trains in White," pages 34-40] credits his lifelong love of trains to a trip aboard the *Lone Star* as a young child, during the early years of Amtrak. While living in Seattle, he volunteered regularly at the Northwest Railway Museum in Snoqualmie, Wash. Rob has written railroad articles for TRAINS and *Michigan History*, and created the Web site RailwaySurgery.org. Today Rob is a pediatric nephrologist (kidney specialist) in Fort Worth, Texas. This is his first article in a CLASSIC TRAINS publication.

MICHAEL HALL ["Heaviest Pullman Ever," page 26], is former executive director of the Gold Coast Railroad Museum, Miami, repository of the presidential Pullman *Ferdinand Magellan*. This is his first CT byline.

PETER A. HANSEN ["A Slice of Home and a Cup of Joe," pages 74-80] is a freelance writer and rail-history consultant living near Kansas City. He's had numerous articles in TRAINS and CLASSIC TRAINS publications.

LES HOFFMAN ["Tales of a GI Hogger," pages 100-108] fired Ten-Wheelers and Consolidations for the Northwestern Pacific in the late 1930's. After his hitch in the Army (he's pictured in 1942), he went on to run a tugboat and ferryboat operation at Eureka, Calif., with his brothers. Les is currently enjoying retirement at his Northern California home. This is his first byline in a CT-family publication.

DAVID JONES ["Black Gold by the Trainload," pages 70-72] is a writer and historian. He's had five articles in TRAINS, but this is his first with CLASSIC TRAINS.

ED KING ["N&W's Wandering Y-3's," pages 52-57], is a retired railroader and accomplished rail book and magazine author living in Florida. He has written many articles for TRAINS over the years and is a former TRAINS columnist, as "The Boomer." His rail career included stints with USRA, Rock Island, and Soo Line, but at heart the Bristol, Va., native is "a Norfolk & Western man." This is his sixth byline in a CLASSIC TRAINS publication.

CHARLIE KNIGHT ["Douglas MacArthur's Locomotives," pages 32-33] is Curator at the MacArthur Memorial, the Norfolk (Va.) museum, research center, and final resting place of Gen. and Mrs. MacArthur (www.macarthurmemorial.org). Knight's great-grandfather worked for the Railway Express Agency at the Norfolk & Western depot in Norfolk. This is Charlie's first byline in a CLASSIC TRAINS publication.

MICHAEL MATEJKA ["Henrietta Hanson on the B&O," pages 58-61], a resident of Bloomington, Ill., since 1973, grew up in the St. Louis area. He works as legislative affairs director for the Great Plains Laborers District Council and edits the *Grand Prairie Union News*. He is board chair of the McLean County Museum of History, and was the guest curator for three exhibits there. In 1982 he co-edited the book *Bloomington's C&A Shops* with Greg Koos; Mike's latest book, *Fiery Struggle*, about Illinois firefighters, was published in 2000. Mike has had articles in CLASSIC TOY TRAINS and MODEL RAILROADER, but this is his first byline with CLASSIC TRAINS.

ROBERT A. RAMSAY ["Boom Times in Paradise," pages 62-69] worked as a fireman on the remnants of the Oahu Railway for three summers beginning in 1950, mostly on the two diesels, but occasionally on steam. During college he had summer jobs on the Southern Pacific (switchman) and Santa Fe (billing clerk). He now lives in Fresno, Calif. This is his first story in a CLASSIC TRAINS publication.

SCOTT D. TROSTEL ["Serving the Servicemen," page 77] is an authority on railroad-station canteens. He's the author of several books on the subject and maintains the Web site canteenbooks.com. This is his first CLASSIC TRAINS byline.

JIM WARSHER ["IC's Mysterious 'Freight' Atlantics," pages 110-112] thanks for their help and source material friends Terry McMahon; Roger A.S. Hennessey, author of *Atlantic, the Well-Beloved Engine* (Tempus, 2002); steam expert Ed King; Ray Breyer; fellow train dispatcher Harold K. Vollrath; and Lloyd Stagner and Steve Lee, co-authors of *Illinois Central Steam Finale* (South Platte Press, 1994). This is Jim's first article in a CLASSIC TRAINS publication.

JOE WELSH ["All Aboard, Again!" pages 8-14] is the author of many books and magazine articles on passenger-train subjects, including five previous bylines in CLASSIC TRAINS publications. He lives in Auburn, Wash.

BOB WITHERS ["FDR's Last Ride Home," page 28], is retired from a career as a reporter for the Huntington, W.Va., *Herald-Dispatch* and an authority on presidential train travel. He wrote *The President Travels by Train* (TLC Publishing, 1996) and was a valuable photo source for this issue's FDR story. This is Bob's fourth byline in a CLASSIC TRAINS publication.

FRED B. WRIXON ["FDR's Wartime Train Travels," pages 20-30] is a freelance writer from Wheeling, W.Va. His interests include military history, communications technology, and model railroading. This is his first byline in a CLASSIC TRAINS publication. ■

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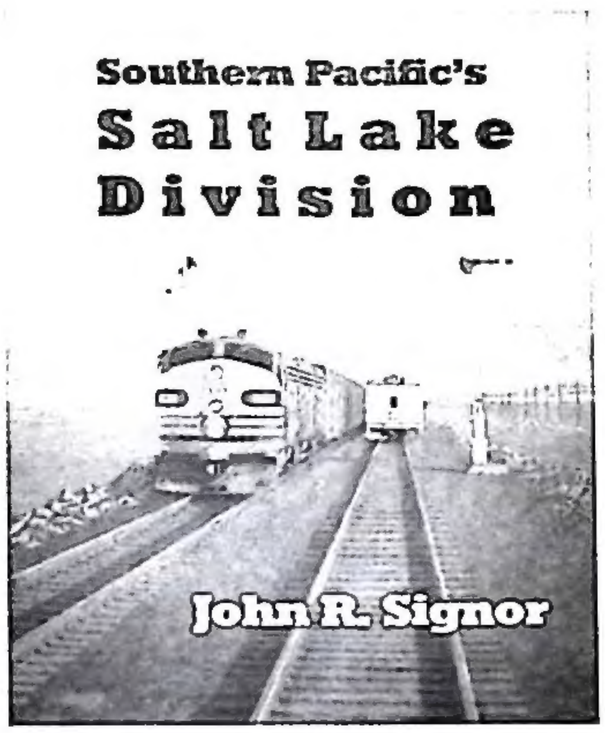

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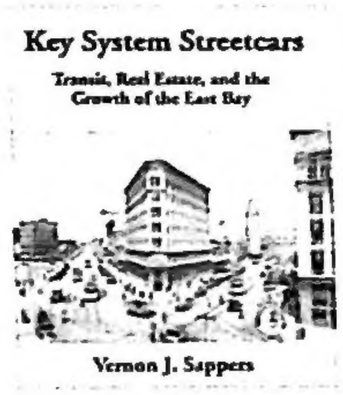

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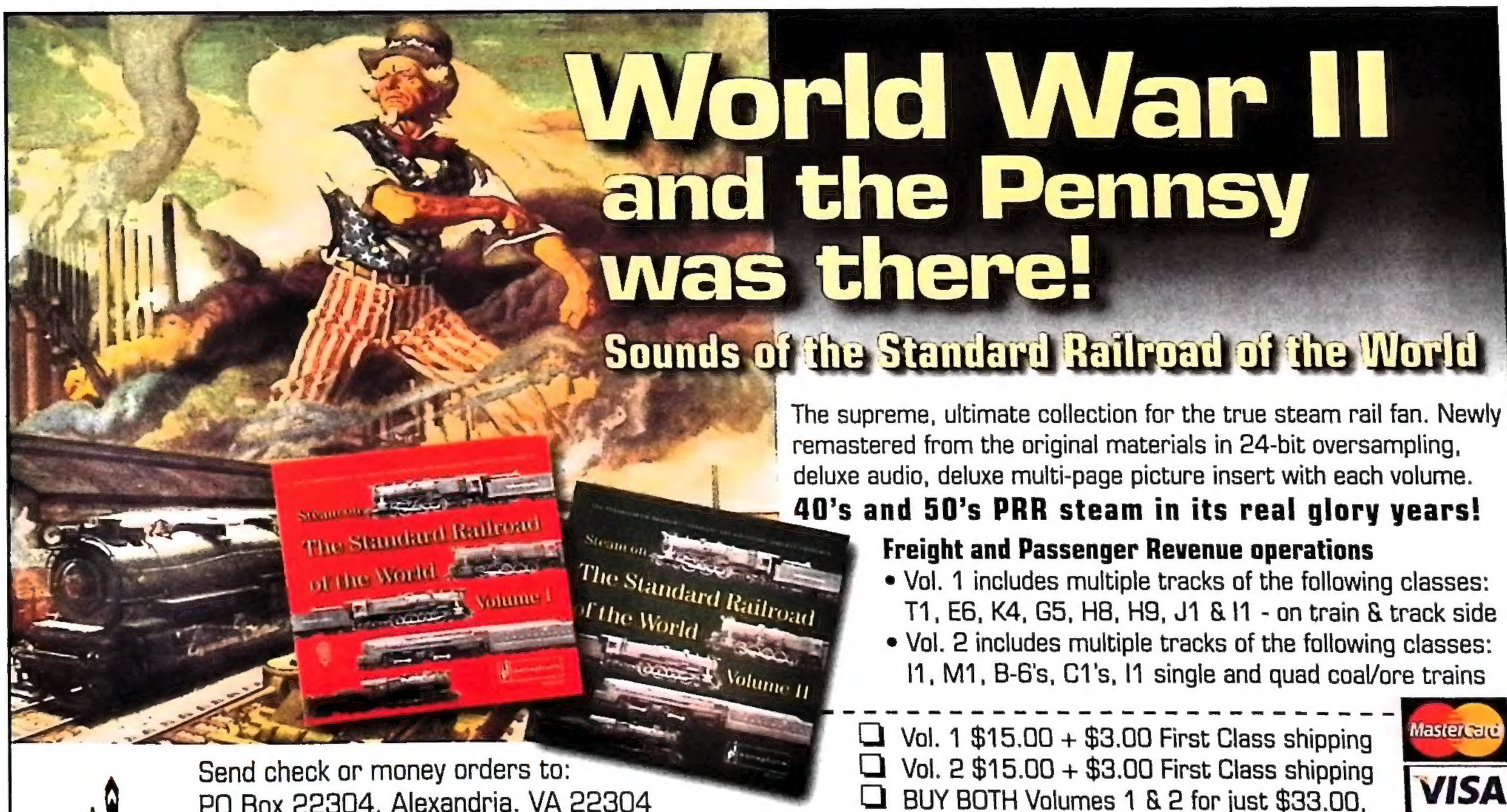
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PENNSYLVANIA RAILROAD

ON THE MOVE: Civilians and military personnel jam a platform at the PRR station in Richmond, Ind., sometime during the war.

After more than two decades of abandoning trains for automobiles and airplanes, Americans returned to the rails during World War II

BY **JOE WELSH**

In a speech to the British House of Commons in June 1940 preparing his nation for the coming Battle of Britain, Winston Churchill said, "Let us therefore brace ourselves to our duties, and so bear ourselves that, if the British Empire and its Commonwealth last for a thousand years, men will still say, 'This was their Finest Hour.'" The same could have been said for America's railroads in the coming years. World War II tested the railroads to an extent that had never been seen before and may never be seen again. To the average American, this heroic struggle was perhaps most evident where they encountered the railroad most often—on passenger trains.

Even before America's entry into the war in December 1941, there had been evidence of increasing rail freight volumes. The national defense program and the demands of delivering material to meet the requirements of the Lend-Lease Act increased freight traffic to a point higher than that experienced during World War I. After Pearl Harbor, passenger demand steadily increased, shattering all previous records. Ridership (that is, absolute numbers of passengers) doubled over prewar levels. More significantly, passenger-miles (one passenger carried one mile) quadrupled—a staggering increase. Because large numbers of troops were moved to and from both coasts—instead of just the Atlantic coast, as in World War I—passenger-miles were double those experienced during 1917-18.

The demand hit some railroads harder than others. Norfolk & Western, which served the major wartime ports of Norfolk and Portsmouth, Va., but which had never been a major passenger carrier, experienced an *eleven-fold* increase in passenger ridership during the war.

Those riding trains during the war had a hundred good reasons. Troops and their officers rode to training and to war, while business people responsible for keeping up

JOE LYNCH

LAST ONE: The joint MP-DRGW *Colorado Eagle* (pictured at Pueblo, Colo., in July '47) was the last full intercity train delivered before the war curtailed new-car construction.

A. HOWARD CHRISTIANSEN

APTLY NAMED: FEC 4-8-2 No. 816 heads up the first section of Miami-Jacksonville train 6, the *Tiresaver.* Wartime rationing of gas and rubber cut automobile use dramatically.

CLASSIC TRAINS COLLECTION

FLEXIBLE FLEET: In an undated view, heavyweight Pullmans roll north out of C&NW's Milwaukee station. Pullman's huge car fleet was well-suited to wartime traffic demands.

wartime production rubbed elbows with the families of military personnel being relocated. The presence of Nazi submarines off the American coast in the early part of the war meant that some mainland troop movements that might otherwise have occurred by ship went by rail instead. All told, the railroads would carry 97 percent of domestic troop movements in the United States during the war. During America's direct involvement in the war, December 1941-August 1945, a total of 113,891 special troop trains moved 43.7 million members of the armed forces. On average, nearly 1 million troops per month moved by rail. The troop tide continued for many months after V-J Day as men were brought home for discharge.

Civilians found their travel choices limited, too. This was a time before the great postwar expansion of the commercial airline industry, and while American society had long embraced the automobile, gas and tire rationing forced people out of their cars and onto the train. Between 1941 and 1944, 77 percent of new intercity passenger traffic in the United States went by rail. That the problem was uppermost in the minds of travelers was evident in the Florida East Coast's choice of a name for its new Jacksonville-Miami coach train inaugurated in May 1942—the *Tiresaver.*

Likewise, food rationing took its toll on the railroads' famous dining-car cuisine. Author Lucius Beebe, a well-known gourmet, noted that he routinely bribed his way into better accommodations on passenger trains during the war by bringing along choice and unattainable victuals with which to ply the crew.

COOPERATION, NOT TAKEOVER

To manage all this demand, the railroads had to take extraordinary measures to use what they had more effectively. Their partner in the endeavor was the government's Office of Defense Transportation (ODT). Unlike World War I, when the government literally took over the railroads through the United States Railroad Administration, in World War II the railroads continued to operate their services but were regulated by the ODT.

The ODT issued at least three orders that significantly affected passenger operations, all established with an eye toward conserving passenger equipment and ensuring its appropriate use. ODT's General Order No. 24, effective October 4, 1942, required an ODT permit to operate any extra passenger train or section of an existing one. This order had the effect of eliminating famous seasonal trains like Atlantic Coast Line's *Florida Special* and Seaboard's *Orange Blossom Special.*

In 1945, as the need for equipment reached a critical stage, the ODT issued

two other orders. On January 11, it further restricted the operation of any train providing seasonal service to any resort, recreational, or vacation area.

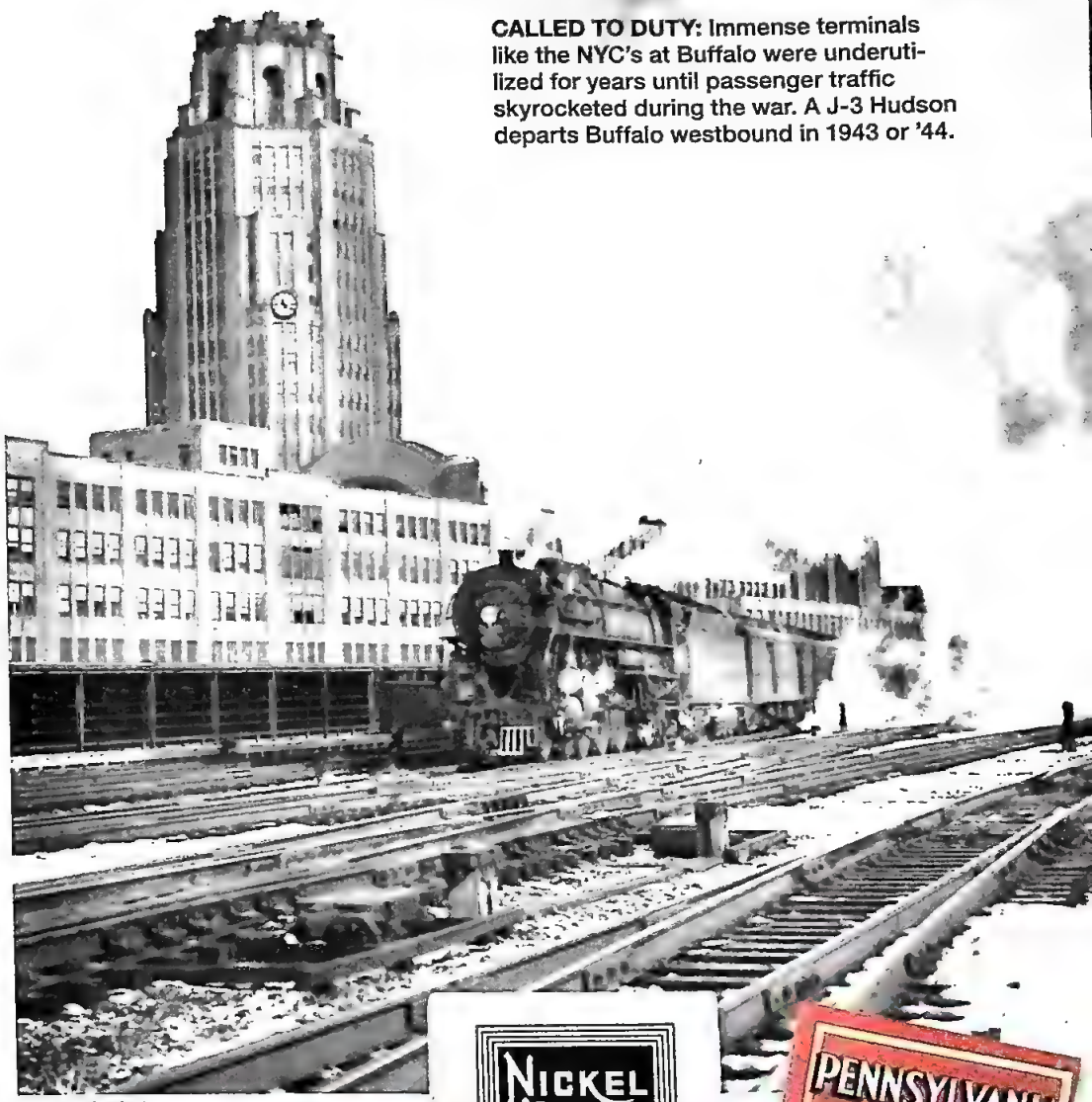
Finally, on July 15, an ODT order prohibited the operation of sleeping cars by any railroad to destinations 450 miles or less from the point of origin of the sleeping car. As a result, the Pennsylvania Railroad temporarily discontinued its crack overnight *Pittsburgher* between New York and its namesake city. The New Haven, which ran the popular overnight train, *The Owl*, between New York and Boston, replaced the train's sleeping cars with parlor cars, in which passengers could at least catch some sleep in parlor chairs; the cars were segregated by gender for modesty purposes.

Faced with rapidly growing demand, the railroads quickly shifted from encouraging travel to holding on for dear life to handle the loads. Passenger-train marketing changed to explaining why it was important to travel only when necessary, and to give up your place in a sleeper or a dining car to a serviceman. One of the most famous wartime ads was New Haven's "The Kid in Upper Four," about a young soldier traveling off to war in a Pullman [page 15].

The demands of war severely taxed the railroads' fleet capacity. In response, for example, the Pennsylvania in 1942 purchased 98 outdated cars from the Pullman Company and several railroads, converting them all to coach seating. Likewise, PRR rebuilt more than 100 freight cars into extremely crude passenger coaches (some with wooden slat seats and kerosene lamps for lighting). Railroads all over the country sold formerly non-revenue lounge-car seats as revenue coach seats.

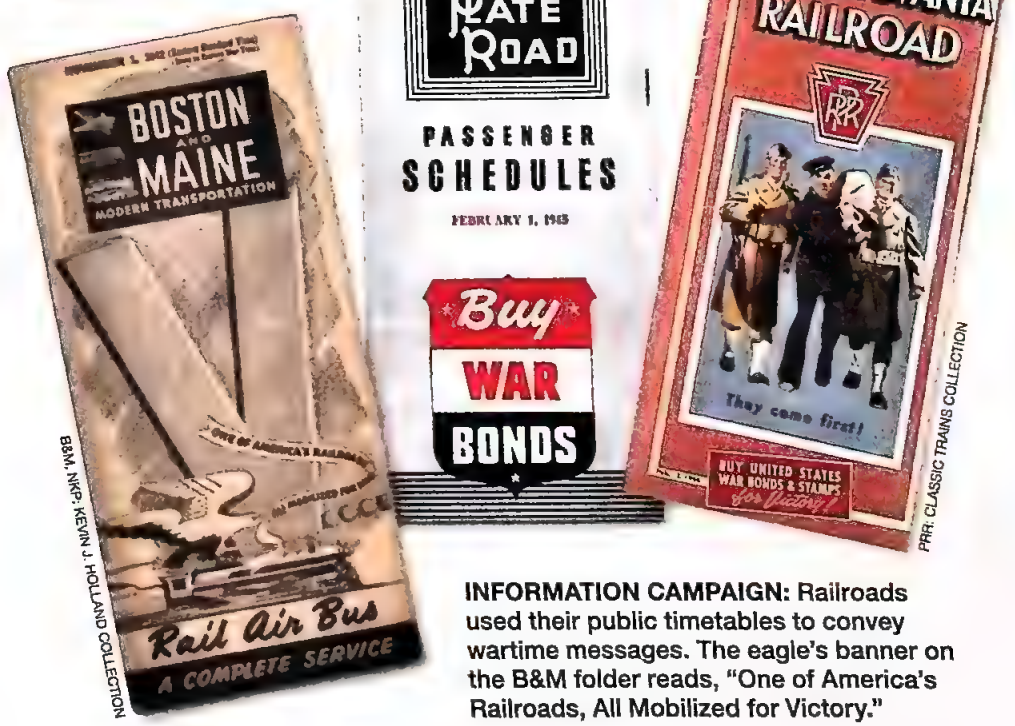
Such capacity-boosting measures were necessary because new rolling stock was in scarce supply. Deliveries of new equipment from carbuilders slowed to a trickle and then ceased as critical materials such as steel were diverted to build the war machine. The last entire intercity trains delivered were Illinois Central's *Panama Limited* (May 1942) and Missouri Pacific's *Colorado Eagle* (June 1942). Other sleeping cars (107 6-section, 6-roomette, 4-double bedroom cars) would trickle in to the Union Pacific/Chicago & North Western, Santa Fe, Rock Island, and Erie by June 1942, and three 10-roomette, 5-double-bedroom cars arrived in October 1943 for Baltimore & Ohio assignment. All had been ordered before the war.

Being frugal, the railroads and Pullman fortunately had held onto passenger equipment made surplus by plummeting demand during the Depression. This prudent move was in sharp contrast to the steamship industry. When passenger traffic



NEW YORK CENTRAL

CALLED TO DUTY: Immense terminals like the NYC's at Buffalo were underutilized for years until passenger traffic skyrocketed during the war. A J-3 Hudson departs Buffalo westbound in 1943 or '44.



B&M, NKP: KEVIN J. HOLLAND COLLECTION
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INFORMATION CAMPAIGN: Railroads used their public timetables to convey wartime messages. The eagle's banner on the B&M folder reads, "One of America's Railroads, All Mobilized for Victory."

GEORGE SPEIR

HOMEWARD-BOUND: Chicagoan George Speir was en route from San Diego to Great Lakes, Ill., in 1946 for discharge from the Navy when he leaned out his troop sleeper window for this shot on the UP in California. His routing was ATSF, UP, DRGW, CB&Q, CGW, and C&NW.

hit an all-time low in Europe in the 1930's, frustrated steamship lines sent to the breakers several older ships that could have been invaluable as troop carriers.

PULLMAN TO THE RESCUE

Fortunately for the country, there was a Pullman Company. The national firm had operated its sleeping, parlor, and restaurant cars for decades under contract to the railroads. With a massive fleet of 6,500 standard, tourist, and lightweight sleepers; an on-board staff of up to 17,000 employees (in 1945); and a support organization second to none, Pullman was uniquely prepared to deal with the rapidly shifting demands of war. Indeed, Pullman's entire operation had been designed to be flexible to meet the vagaries of a travel market that shifted from serving Florida tourism in winter to western travel in summer.

At the heart of this flexibility was the Pullman pool, a fleet of thousands of sleeping cars which the company shifted around the country seasonally every year. The ODT's principal orders were largely designed to free up this pool of cars and make them available for troop movements. But in addition to the well-known use of hundreds of Pullman cars in troop trains and the creation of a new fleet of 1,200 Pullman-operated boxcar-style troop sleepers, older Pullmans were converted and used for the carriage of the wounded and even the dead.

All told, during the war Pullman alone handled 125 million passengers who traveled 98 billion miles by rail. Included in that number were 33 million passenger trips by service personnel who traveled 44 billion miles. To put it another way, Pullman's wartime traffic burden was nearly equal to carrying every man, woman, and child in the United States, for the U.S. population at the time was only 131 million.

The war also affected the railroads' daily schedule of operations. Train speeds were often lowered to reduce wear and tear on track and equipment that couldn't easily be replaced and to cope with the increased congestion from freight traffic. While some roads were able to add extra sections of regular trains, others found themselves out of luck. PRR, the busiest passenger railroad in the country, added multiple sections of its Washington-Chicago *Liberty Limited* and other trains during the war. Reacting to heavy demand in early 1944 the B&O begged Pullman and the ODT to assign enough cars for and grant permission to add a second section

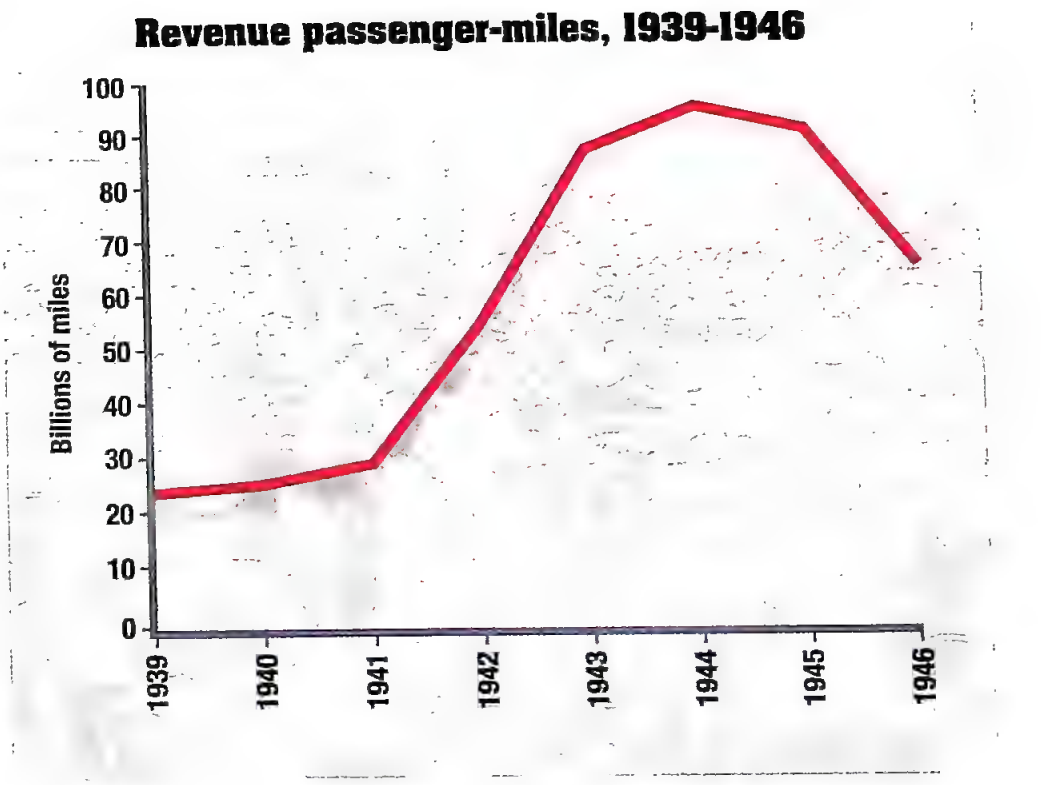
of the heavily patronized *Capitol Limited*. The road was rebuffed, mainly because of something no one could tell the B&O: D-Day was just around the corner and the government was making extraordinary preparations.

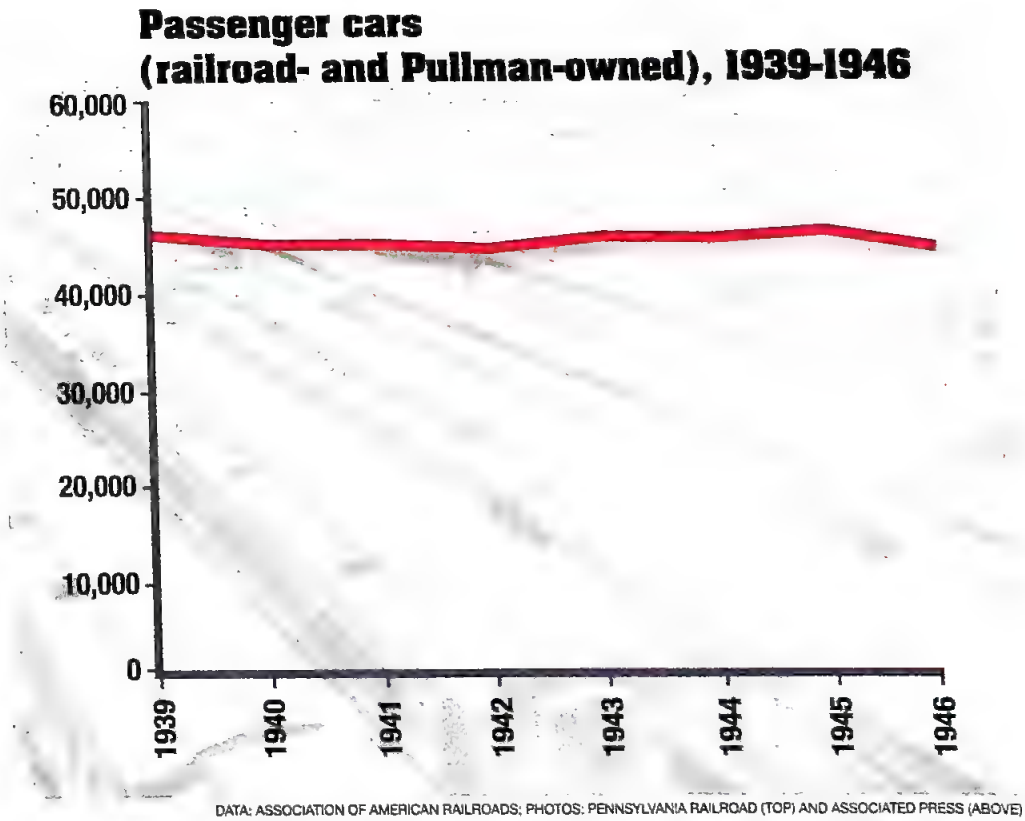
CASUALTIES OF WAR

All those extra passengers had to wait somewhere, and it was America's passenger stations that handled the burden. The busiest was New York's Pennsylvania Station. In 1945 alone, Penn Station handled an amazing 109 million passengers—a figure representing 83 percent of the nation's population. Many big terminals, built for growth near the end of the heyday of rail travel, had been underutilized for decades, but their excess capacity was finally put to use during World War II.

Railroad people were being pushed to and sometimes beyond their limits. Operating crews sometimes slept on their trains between shifts. Tight wartime operations and fatigued employees occasionally resulted in some spectacular and deadly passenger wrecks. On September 6, 1943, the Pennsylvania's eastbound *Congressional Limited*, heavily loaded with 541 passengers, derailed at speed on a curve at Frankford Junction (Philadelphia), Pa. The wreck spilled cars all over the right of way, including one that went hurtling into the frame of a signal bridge, which split the car like a can opener; 79 people lost their lives. The cause of the wreck was an improperly lubricated journal box, which caused the car's truck to disintegrate. The wreck led to a finding by the federal government that the tremendous manpower shortages and turnover of employees during the war had led to the railroads' use of inexperienced personnel. That, coupled with the fact that every available piece of equipment had been pressed into service, required caution and led to a recommendation to reduce passenger-train speeds. It would turn out to be a prophetic statement.

Three months after the *Congressional* wreck, on the bitter cold night of December 16, 1943, a broken rail near Rennert, N.C., caused Atlantic Coast Line's southbound *Tamiami Champion* to break in two and partially derail. A lack of communication and insufficient flagging protection by the train crew led to disaster. Unbeknownst to the crew at the head end, derailed cars at the rear of the train lay partially across the northbound track. Forty minutes after the derailment, the train's fireman had walked only 100 feet south to flag northbound trains when he saw a headlight. He stumbled on the snowy embankment, breaking his only fusee, which was unlit. Frantically waving a lantern, he received no acknowledgment from the train—the





DATA: ASSOCIATION OF AMERICAN RAILROADS; PHOTOS: PENNSYLVANIA RAILROAD (TOP) AND ASSOCIATED PRESS (ABOVE)

HOW CROWDED WAS IT? The nation's fleet of passenger rolling stock fleet stood at 45,218 cars in 1940, but peaked at only 47,223 in 1945, despite a more than quadrupling of passenger-miles, from 23.8 billion in 1940, to an all-time high of 95.7 billion in '44.

northbound *Tamiami Champion*—as it passed him at 85 mph. The northbound sideswiped the derailed cars, and 72 passengers died. It was the worst of dozens of wartime accidents on the ACL caused by the breakage of 100-lb. rails. All told, fatalities per billion rail passenger-miles on U.S. railroads in 1943 and '44 were roughly triple that experienced in 1941.

The time of heaviest rail travel demand was 1944 and '45, as the war reached crescendo and conclusion. Victory in Europe, and the realization that taking the Japanese mainland through an invasion would require massive quantities of troops, led to the decision to conduct a major redeployment from east to west for the Pacific campaign. But the early end to the war after the dropping of the atomic bombs resulted instead in the demobilization of the troops. Despite the end of the conflict, the railroads couldn't afford to take a breather. More than 5.5 million veterans would return from overseas between November 1945 and June 1946, and once stateside, most would make it home by rail.

AFTER THE WAR, A BATTLE

All that wartime travel had had a significant effect on the railroads' plant and rolling stock. In 1944, a *Wall Street Journal* article reported that economists predicted American railroads would have to invest $1.7 billion in the first five years after the war to replace worn-out freight and passenger equipment. The 45 months of non-stop conflict had taken their toll. While experienced employees would return from the war to bolster the railroads' workforce, much of the equipment was on its last legs. Streamlined passenger cars originally estimated to last 20 years required major renovation after barely a decade. Older heavyweight cars, which actually comprised the majority of the railroads' fleets, had entered the war near the end of their service lives. Now, many were ready for the scrap heap.

The war may have been over, but the battle for passenger revenues was just getting started again. The railroads calculated that the revenues available from an expected postwar increase in passenger traffic could be more than 200 percent of their prewar revenues. They also knew that prewar streamliners had been very successful at building passenger traffic. So, faced with a worn-out fleet and seeming opportunity ahead of them, the railroads invested heavily to reequip their passenger trains, ordering roughly 4,600 streamlined passenger cars in the postwar era. But the investment would ultimately turn into a nightmare for the railroads as they watched their beautiful postwar passenger trains lose ridership and revenue to the automobile and the airplane.

The competition was overwhelming. Between 1946 and 1954, Americans would buy 37 million new autos. In the same period, the country would spend $20 billion on new highways, and in 1956 Congress would approve the development of the 40,000-mile high-speed Interstate Highway System. Likewise the airplane, in its infancy as a passenger mode before the war, would turn out to be a popular and frighteningly efficient competitor after the war. The high revenue-producing power of the plane (it could make multiple trips between end-points in the time it took a train to make one trip), coupled with its relatively low overhead cost (smaller crew, no right-of-way costs, and far fewer passenger facilities) made it a natural. In 1958 the debut of the commercial jet airliner in the U.S. would all but seal the fate of the American long-distance passenger train.

Recalling the often overcrowded and uncomfortable conditions on wartime trains, many Americans who took to the rails during the first half of the 1940's would seldom, if ever, board a long-distance train again. The passenger trains that had done so much to help the country win a war would ultimately lose their own battle. ■

LEFT: GENERAL MOTORS; ABOVE: PENNSYLVANIA RAILROAD

DREAM DENIED: Brisk wartime business and a worn-out equipment fleet led the railroads to spend millions on new trains, exemplified by the GM *Train of Tomorrow*, after the war. But memories of crowded, uncomfortable trains, like PRR's converted boxcars, helped keep riders away.

★ Wartime Advertising ★

THE KID IN UPPER 4

It is 3:42 a.m. on a troop train.

Men wrapped in blankets are breathing heavily.

Two in every lower berth. One in every upper.

This is no ordinary trip. It may be their last in the U.S.A. till the end of the war. Tomorrow they will be on the high seas.

One is wide awake . . . listening . . . staring into the blackness.

It is the kid in Upper 4.

☆ ☆ ☆

Tonight, he knows, he is leaving behind a lot of little things—and big ones.

The taste of hamburgers and pop . . . the feel of driving a roadster over a six-lane highway . . . a dog named Shucks, or Spot, or Barnacle Bill.

The pretty girl who writes so often . . . that gray-haired man, so proud and awkward at the station . . . the mother who knit the socks he'll wear soon.

Tonight he's thinking them over.

There's a lump in his throat. And maybe—a tear fills his eye. *It doesn't matter, Kid.* Nobody will see . . . it's too dark.

☆ ☆ ☆

A couple of thousand miles away, where he's going, they don't know him very well.

But people all over the world are waiting, praying for him to come.

And he will come, this kid in Upper 4.

With new hope, peace and freedom for a tired, bleeding world.

☆ ☆ ☆

Next time you are on the train, *remember the kid in Upper 4.*

If you have to stand enroute—*it is so he may have a seat.*

If there is no berth for you—*it is so that he may sleep.*

If you have to wait for a seat in the diner—*it is so he . . . and thousands like him . . . may have a meal they won't forget in the days to come.*

For to treat him as our most honored guest is the least we can do to pay a mighty debt of gratitude.

THE NEW HAVEN R.R.

★ SERVING THE GREAT INDUSTRIAL STATES OF MASSACHUSETTS, RHODE ISLAND AND CONNECTICUT ★

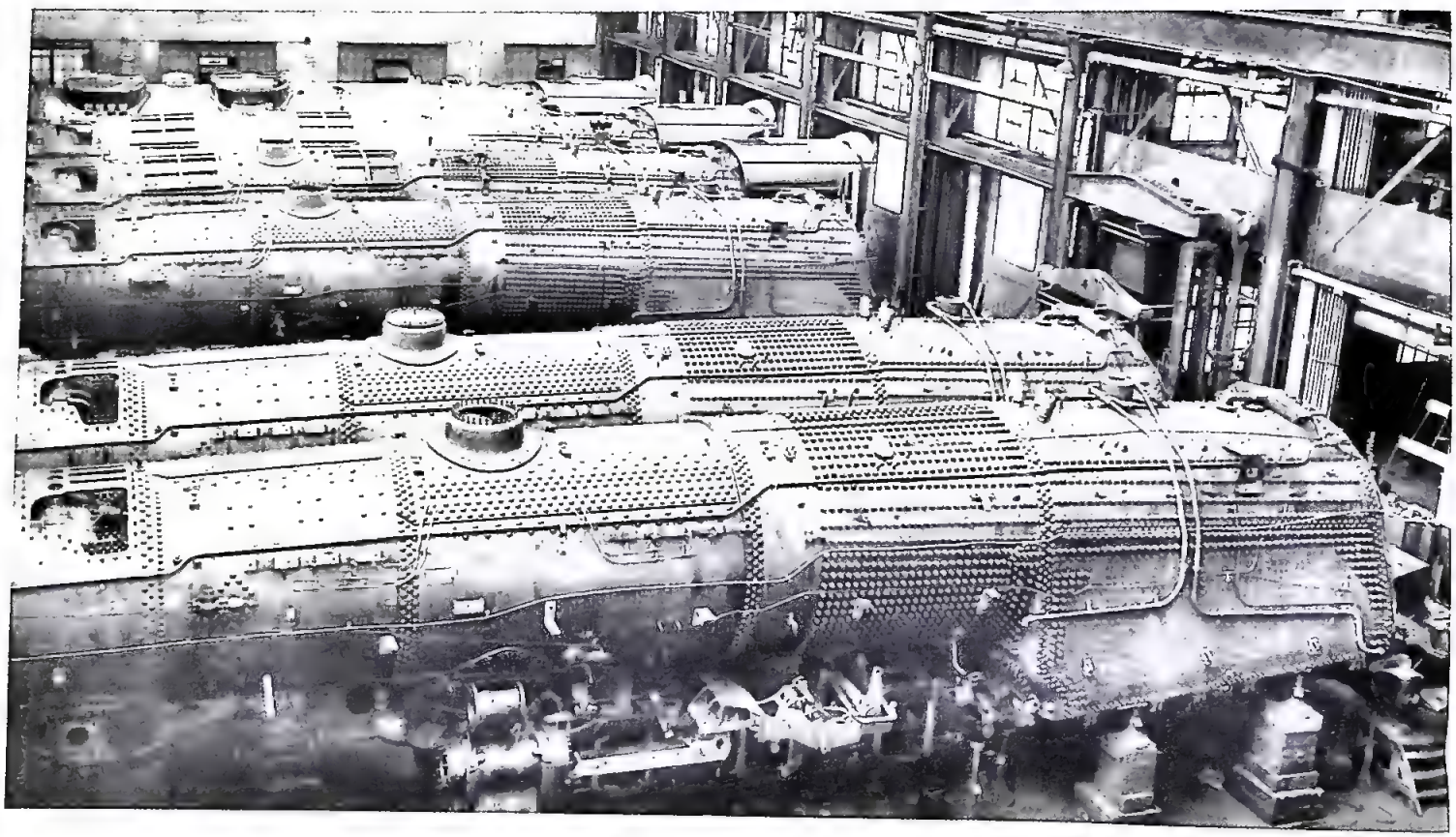
MICHAEL ZEGA COLLECTION

Among the best-remembered of all World War II-era railroad ads was the New Haven's "The Kid in Upper 4," which debuted in newspapers and magazines in fall 1942. It was the first in a series of emotive NH ads that followed "The Kid" and his fellow soldiers overseas.

Inside Lima

Army tank production required my frequent visits to the plant, but it's the locomotives, and the men, I remember most fondly

BY **DWIGHT AKERS**



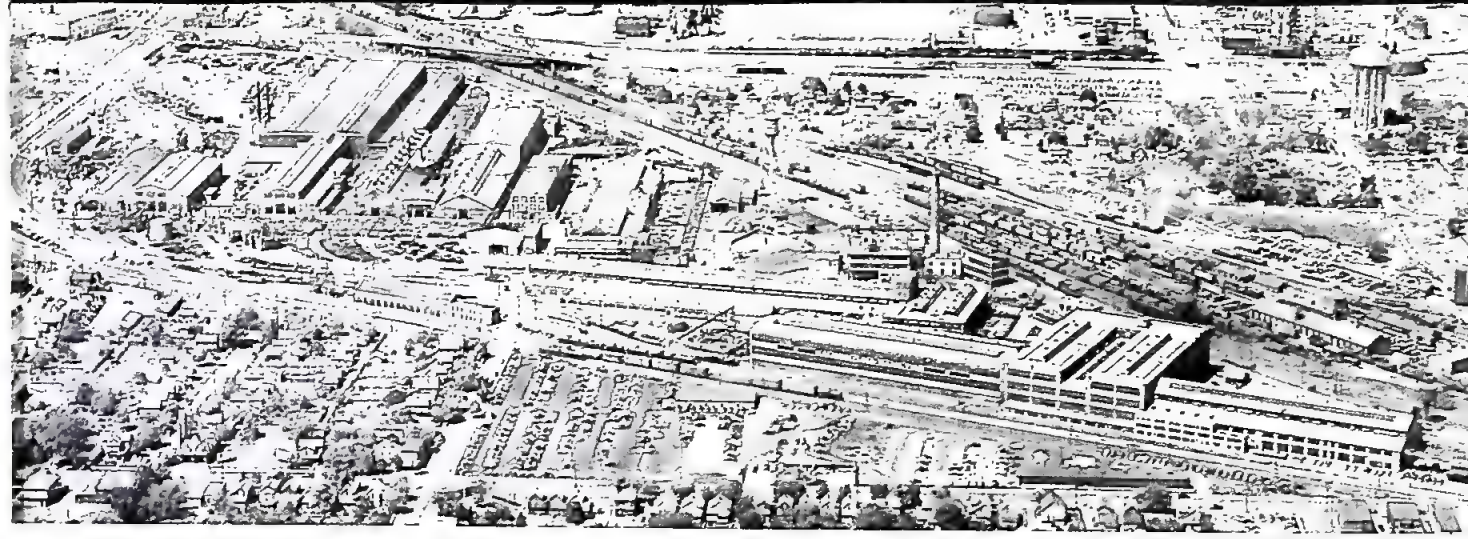
LIMA-HAMILTON CORP.

Without being on the payroll, I was able to see the inner workings at Lima Locomotive Works in intimate detail during the World War II years. To see at firsthand the Ohio firm's prodigious production of war materiel, steam locomotives, cranes, and shovels—all from a relatively small plant—was most rewarding.

First, permit a summary of my career. I had entered Georgia Tech in September 1929, in the Cooperative Plan, and received a degree in Mechanical Engineering in June 1934. The plan involved working half the time, which I did as a machinist apprentice at the Atlanta shop of the Nashville, Chattanooga & St. Louis, receiving my certificate as a locomotive machinist. I was also commissioned a 2nd Lieutenant in the Army Ordnance Reserve.

I then worked a year in the Atlanta shop of the Pullman Company, during its first application of air-conditioning to sleeping cars. In September 1935 I joined the Southern Railway at Cincinnati as an assistant mechanical engineer assigned to the Superintendent of Motive Power, Western Lines. For three years, I worked in special assignments and received broad experience in locomotive and car shops at Ludlow, Ky.; Birmingham; New Orleans; and Chattanooga. In 1938 I joined Texaco, as a Lubrication Engineer in the Railway Sales Department, stationed in Jacksonville, Fla.

While with Texaco, I really broadened my rail experience, servicing lubricants and other petroleum products sold to railroads all over the Southeast. I rode thousands of miles in locomotive cabs and cabooses, observing the performance of oils and greases on equipment. I practically lived on the first 10 Electro-Motive Corp. E4 diesel units bought by Seaboard Air Line for their first six months of operation, in late 1938 and early '39. They suffered all the usual new product develop-



BALDWIN-LIMA-HAMILTON CORP. PHOTO, JOHN. B. CORNS

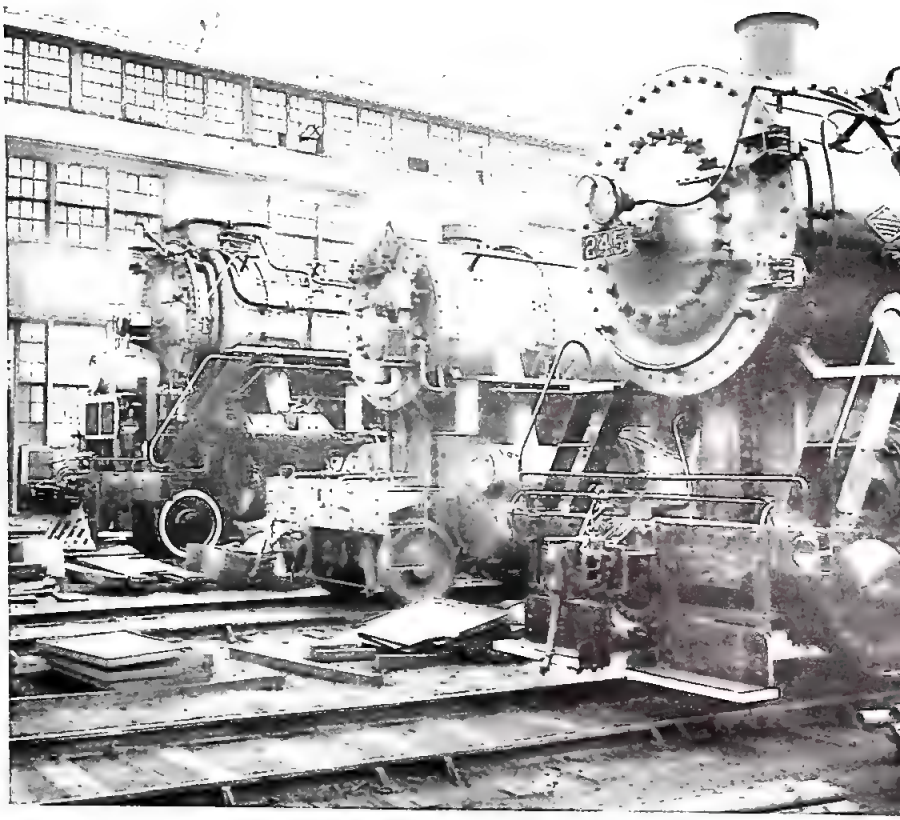
This aerial view of "the Loco" in Lima looks west. Railroads are B&O across the bottom, Nickel Plate on the angle, Erie at uppe

ment pains, and while defending the lubricants from blame, I became qualified in diesel operation and maintenance. In February 1942 I was called to active duty with the Army Ordnance Department and assigned to the Tank-Automotive Center (T-AC) in Detroit with the Medium Tank Production Engineering Group. Because of my railroad experience, I was made engineering liaison officer to Lima Locomotive Works.

I first went to Lima in April 1942 for a week's temporary duty to help get the production of Medium Tank M4A1 under way. This was a new model, so revised engineering drawings and change orders were being sent to the builders daily, and the Ordnance Officer in charge of inspection and acceptance was swamped with paperwork. He had requested T-AC to send an engineering officer who could make prompt decisions as to just where on the production line certain changes had to be made. I was given authority to make judgment calls on the changes, and this expedited the production and acceptance of tanks. For the rest of 1942 I practically commuted every other week from Detroit to Lima, spending more than 100 days in the Ohio city that year.

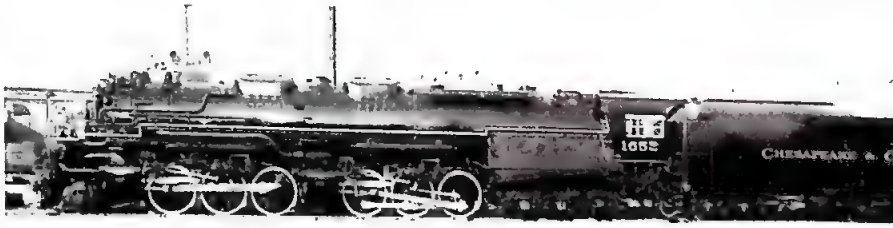
My connection with the Army, and the fact that I had railroad and supply company experience, gained me immediate acceptance into the inner circle of Lima Locomotive Works officials. I was given an identification badge that permitted me to go anywhere in the plant, and I availed myself of that privilege to roam around the locomotive manufacturing section whenever I had free time.

Although I'd started working on steam locomotives at age 17, and had ridden the cabs of such fine engines as the Southern's Ps-4 Pacifics, Atlantic Coast Line's R-1 Northerns, and Seaboard's 2-6-6-4's, I also got a big thrill seeing all the construction



LIMA LOCO

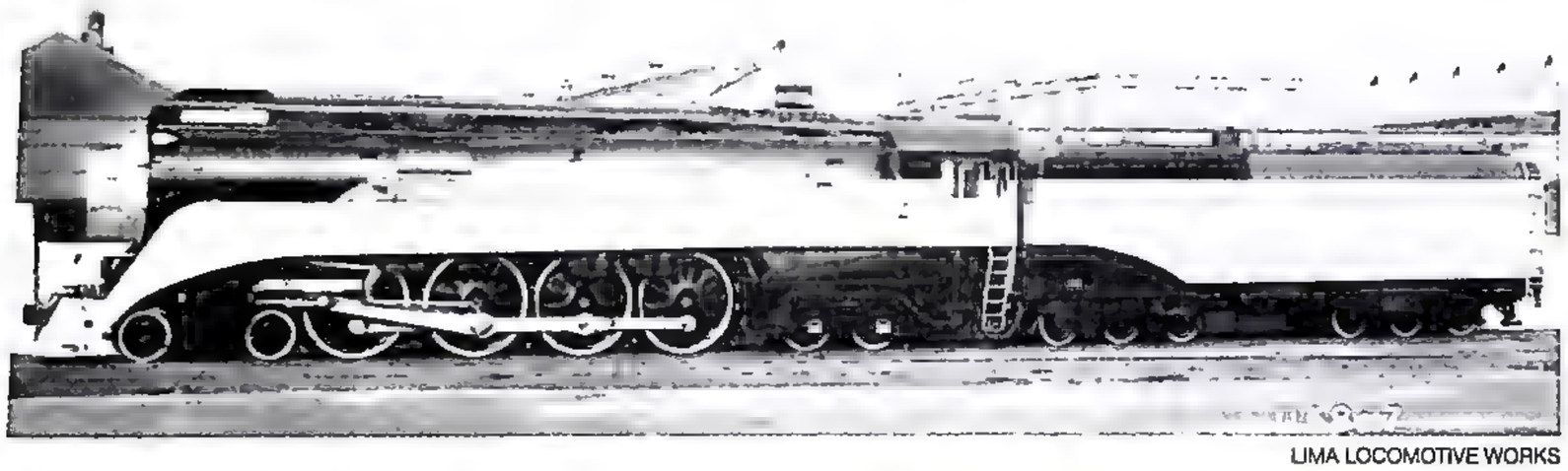
A 1943 lineup at the Lima plant features (from left) Central of Georgia 4-8-4 45
eight in the K class, a U.S. Army 2-8-0, and Chesapeake & Ohio 0-8-0 245, am
C-16 class switchers built during 1942-43. C&O sold the C-16's to the Virginian



C&O PHOTO FROM JOHN B. CO

In the shop (opposite page), six of C&O's 60 H-8 class 2-6-6-6 Allegheny artic
(built 1941-1948) are under construction; 1652 (above) exemplifies the finished

NICKEL PLATE PHOTO BY GEORGE JAY MORRIS; JOHN B. CORNS COLLECTION



LIMA LOCOMOTIVE WORKS

LIMA LOCOMOTIVE WORKS

Among locomotive types the author saw under construction were (from top) Nickel Plate 2-8-4's (pictured in 1945), Southern Pacific GS-4 class 4-8-4's, and U.S. Army 2-8-0's.

stages as the great Southern Pacific GS-4 Northerns, Nickel Plate Road Berkshires, Chesapeake & Ohio Alleghenys, and others were being built. There were also the ubiquitous Army 2-8-0's with the large white "U.S.A." letters on the tender. Even the clumsy Shay, the plant switcher, looked good. Frequently I would catch a ride for a half hour or so on new engines as they were given a shakedown on the plant spur track, during which every detail was checked and any problems addressed.

As interesting as the Army tanks and all the locomotives were, the employees and officers at Lima were more so. All had a sincere dedication to quality workmanship and a desire to give the customer everything he paid for, and more.

When in Lima I stayed at the Argonne Hotel and generally ate supper at the Congress Restaurant, where Lima officers occupied a big round table every night. Also on hand were railroad and supply firm employees who had an interest in the locomotives under construction. Being accepted into this fraternity was a privilege, and I have fond memories of many interesting discussions around that table.

Although W. E. Woodard, Lima's widely respected vice president of engineering and a legend in his own time, had died in March 1942 after a prolonged illness, I had met and talked with him several years before I went to Lima, at railroad mechanical meetings in Chicago. Lima Locomotive regulars at the round table during my visits included Woodard's protégé and successor, Bert Townsend; Vice President Frank Cutter; Chief Draftsman Bill Kelker; and Shop Superintendent Ernie Miller.

SP Mechanical Engineer Frank Russell, a dapper little gentleman with a neat Vandyke beard, was often in Lima, watching his beloved GS-4's being built. Mechanical and boiler inspectors from a number of roads came and went as their jobs required. There were always one or two representatives of the old-line supply companies in the plant, checking on their products such as air brakes, feedwater pumps, injectors, lubricators, roller bearings, and the other specialties specified by the locomotive buyers. The round table conversation was always interesting and often spirited, as opinions were freely expressed on every subject pertaining to railroad operation.

Wartime material shortages were of serious concern to all, as was the growing popularity of diesel-electric locomotives. Woodard and Townsend had great faith in their plans to further improve the steam locomotive and keep diesels from making inroads into the heavy freight locomotive business. They talked of high-capacity boilers to improve fuel efficiency, welded boilers to lower costs, lighter-weight reciprocating parts, rotary-cam poppet valves, and other refinements which would keep steam competitive in performance and operating costs. Some at the table voiced the opinion that diesels were OK for lightweight passenger trains and switching work, but would be a long time replacing the modern giant steam locomotive in heavy freight service, which brought in the most revenue for the railroads. I nearly got tossed out one night when I said, "Much as I love and respect steam engines, five years after this war is over, you had better be building diesels if you want to stay in the locomotive business." Fortunately, I was forgiven as being a brash young man.

After 1942, I spent less time at Lima as I was assigned to liaison with Alco, Baldwin, and some other Medium Tank builders. However, Lima was always my favorite among these great companies. The Army started reducing the procurement of tanks in 1944, and, on one of my last visits to Lima, a quick tour through the locomotive shops found fewer Army locomotives being built, but a surge of railroad orders. One of the more interesting items I noted was the machining of engine-bed castings for the Pennsylvania's T1 4-4-4-4's to be built at Altoona.

As I look back over my 44 years of good experiences in the railroad industry, the interaction with the great people at Lima Locomotive Works is certainly one of my happiest memories. ■

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Classic Trains MAGAZINE

Campaign train rides, exemplified by this scene on the New Haven at Bridgeport, Conn., November 4, 1944, were actually a minority of rail trips for the 32nd President.

FDR's wartime train travels

Unlike his very public excursions in the 1930's, President Roosevelt's trips by rail during the war had to employ the highest security and secrecy

BY **FRED B. WRIXON**

Franklin D. Roosevelt was an experienced train traveler by the time he became President and set records by logging 243,827 miles during his 12 years in the Oval Office. But his most important time on the rails was spent as commander-in-chief during World War II.

Roosevelt's first rail journey after beginning his presidency was a 4½-hour trip from Jersey City, N.J., to Washington, D.C., on April 21, 1933. He went by train a number of times during his first two terms, traveling to Springwood (his Hyde Park, N.Y., home), to his "Little White House" retreat at Warm Springs, Ga., and for political and campaign purposes. As with any President traveling, there was nothing simple about any of these journeys.

Chief Executives' trains had carried the designation POTUS, for President of the United States, since at least Benjamin Harrison's term (1889-1893). By the early 1930's, presidential railroad trips necessitated detailed planning. According to railroad histories such as Bob Withers' *The President Travels by Train* (TLC Publishing, 1996), arrangements were made—beginning months in advance—by the railroad on which the journey began. Officials of the Baltimore & Ohio and Pennsylvania railroads, through liaison with other carriers, handled the majority of FDR's rail arrangements nationwide. (Roosevelt liked train travel and was well-acquainted with the U.S. rail network. In fact, he might've been a "rare mileage collector," a term decades away from being coined, because he liked to be routed over lines new to him. He also liked to fill out his private car's space diagram cards himself!)

Prior to a trip, a series of actions occurred along the chosen routes. Train dispatchers had to avoid conflicts with scheduled passenger and freight trains. Pilot trains preceded presidential specials, and sometimes a decoy engine and consist were included. Replacement locomotives, crews, and parts were often placed at key locations. Division superintendents or road foremen of engines in a given territory often rode, or operated, the locomotive hauling the President's train. Each road's plainclothes special agents (police) worked with the Secret Service and local police to guard station platforms, control crowds, investigate threats, and screen persons who boarded the special trains.

Advance operations involved stopping most trains for 30 minutes before a presidential train would pass, although some passenger trains occasionally were granted slow passage. Other preparations ranged from right-of-way inspections to building reserves of water supplies and carefully choosing high-grade coal.

In FDR's era, the typical POTUS train consisted of a locomotive; a baggage car (often containing automobiles for conveyance to civic centers, hotels, etc.); a communications car (from 1942 onward, having world-wide links); three or four Pullman sleepers for news people; a press car with tables for rows of typewriters, photographers' darkroom facilities, and Western Union telegraph equipment; dining cars; a lounge car; three or four Pullman sleepers for presidential staff, Secret Service, and railroad police; and, at the rear, the President's open-platform private sleeping car.

FROM PUBLIC TO PRIVATE

Roosevelt's first important summit meeting, while representing the still-neutral United States, was with British Prime Minister Winston Churchill at Placentia Bay, Newfoundland, Canada. For that meeting, FDR took a series of rail and ship rides. They began at Washington Union Station on August 3, 1941, on the Pennsylvania Railroad to New York and the New Haven to New London, Conn. There he boarded the presidential yacht USS *Potomac* and sailed to the water-borne meeting in Canada. Upon its conclusion, he disembarked from the *Potomac* at Rockland, Maine, on August 16, and rode by train back to Washington on a route that included Maine Central, Boston & Maine, New Haven, and Pennsylvania.

After the United States' entry into World War II, FDR's journeys had to have the highest security and secrecy. With enlarged White House staff and more Secret Service details, railroad agents, and local police involved, much greater care was taken

W. R. OSBORNE

FDR was said to prefer the B&O over the Pennsy, and P-7 Pacific 5319 *President Arthur* hauled him, including on April 13, 1943, on the first leg of his second big nationwide tour.

WAYNE BRUMBAUGH

En route from Washington to Hyde Park, FDR frequently traveled NYC's West Shore line, exemplified by train 25, the *West Pointer*, leaving the west portal of Palisade (N.J.) Tunnel.

regarding the "need to know" for all aspects of all presidential itineraries.

FDR's first top-secret train ride took place on Tuesday, January 6, 1942, from Washington to Hyde Park. Rather than beginning the trip from high-profile Union Station, the President went by auto to a quiet point in suburban Silver Spring, Md., to board the Baltimore & Ohio (FDR was said to prefer the B&O over the PRR). The train contained no press cars, and after this unheralded beginning, Roosevelt's staff managed to keep his location a secret until he returned to the capital the following Sunday.

These "blackout" visits to Hyde Park continued with White House aides trying various D.C.-area departure venues while juggling security and secrecy with convenience for the polio-stricken leader. Along with Silver Spring, these sites included the Bolling Field Army Air Corps Base, Catholic University, and PRR's 14th Street yard.

Roosevelt made at least 40 Washington-Hyde Park rail trips during his last two years and four months in office, and the normal route bypassed Manhattan. Out of the capital, the train used the B&O and its New York City route partners Reading Company and Jersey Central to Claremont, a junction in Jersey City, where B&O and NYC motive power was exchanged. After a short run on Lehigh Valley's National Docks subsidiary, the train entered NYC's West Shore line for the run up to Highland, N.Y., across the Hudson River from Poughkeepsie. The party would then motor the 12 miles across the Mid-Hudson Bridge and north to Hyde Park.

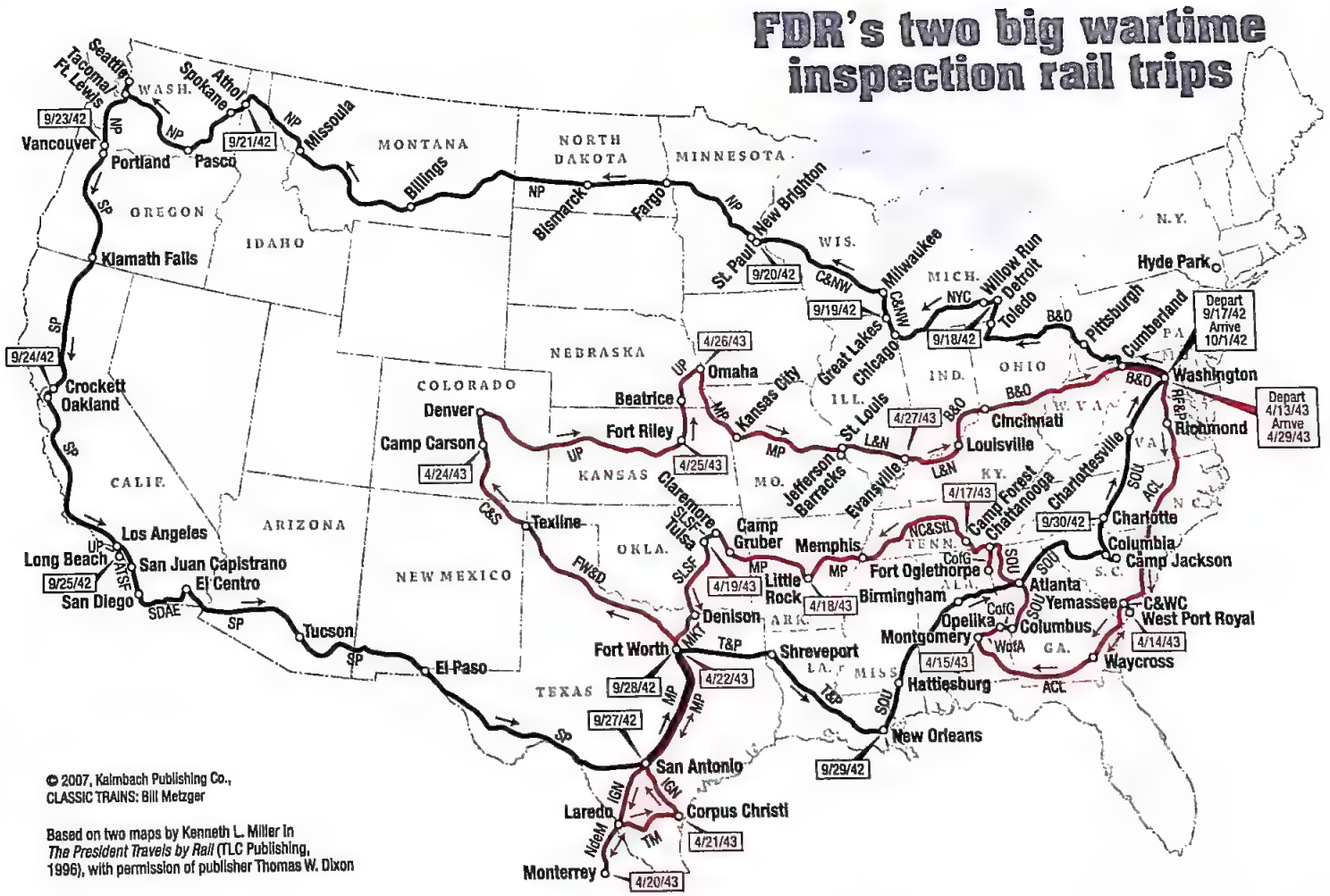
This routing avoided tying up PRR's busy Washington-New York main line and going through the Hudson and East river tunnels, through Penn Station, and across Hell Gate Bridge, all requiring more security. When FDR's trains did use this route, they would back up from New Rochelle, N.Y., on a New Haven branch to Mott Haven Yard in the Bronx, then go up NYC's Hudson Division to a private siding behind his Hyde Park home.

SPECIAL CARS FOR SECURITY

While the Washington embarkation sites were changing, Roosevelt began a series of his most important train travels. From September 17 to October 1, 1942, he went on a nationwide inspection tour of military bases and defense production centers. On September 22, he was at his most westerly point, Fort Lewis, Wash., near Tacoma. All told, he covered 8,396.5 miles while visiting sites in 25 states [see "A Day of Excitement and Mystery" in Winter 2007 CLASSIC TRAINS]. The President could traverse such a distance from Washington because he was able to remain

U.S. ARMY, ROBERT WAYNER COLLECTION, COURTESY BOB WITHERS

Military personnel and a color guard wait for Roosevelt to alight from the *Roald Amundsen* at Fort Lewis, Wash., September 22, 1942.



FDR's two secret nationwide trips in fall 1942 and April 1943 encompassed 32 days through 33 states over 15,640 miles on 24 railroads.

★ Staying in touch via the 1401 ★

Franklin D. Roosevelt became the first President in office during a war to be able to travel extensively without compromising his status as Commander-in-Chief, thanks to a special communications railroad car.

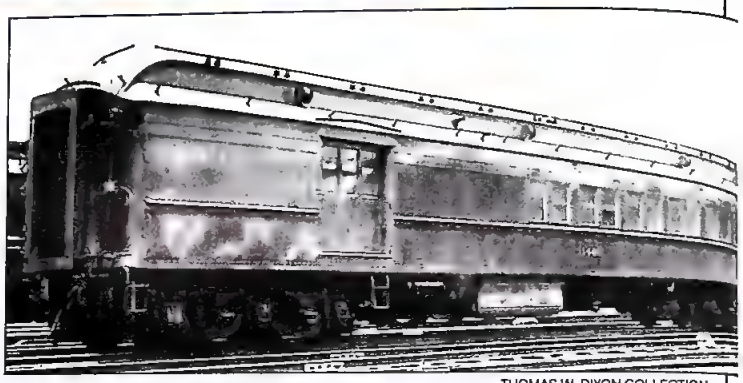
In May 1942, the White House Signal Detachment (WHSD), in charge of presidential communications, had been assigned the task of developing such a car with comprehensive and rapid message capabilities. WHSD instructed the U.S. Army Transportation Corps to obtain a car, which the Corps did—a combination baggage-coach ("combine") owned by the Baltimore & Ohio, numbered 1401.

WHSD leased the car, keeping its B&O number, and began a series of technical tests even as the car was being modified. The alterations were necessary to meet the needs of the President as well as the requirements of the Association of American Railroads, which was responsible for technical standards nationwide. The results were described by a White House official as ". . . an awe-inspiring mass of wires, tubes, decoding machines, and other 20th century apparatus."

Eventually 1401's equipment included special send-and-receive antenna wires in roof-mounted copper tubing; two Federal BC-339 transmitters; a number of 50-watt FM transmitter-receivers; teletype and telephone exchange equipment; and a section for U.S. Army cipher machines that provided extra protection for messages.

The modifications had some problems. Standard procedures did not work when securing the communications equipment. WHSD staff shock-mounted all the mechanisms only to receive a disappointing surprise—changes in train speed created changing vibrations. The shock-mounted devices oscillated so badly that several pieces were permanently damaged. The WHSD had to hand-bolt the equipment to steady it.

Power for transmissions was first supplied by a gasoline generator. But the AAR faulted WHSD for placing a gasoline tank below the frame of the car. AAR people directed that a double-walled tank with CO_2 be used between the walls. This created its own problems, for each time the train neared a tunnel, it would have to stop so the CO_2 tank could be emptied, and upon exiting, it would halt again so the tank could be refilled. Such an operation obviously would not work, and the remedy finally was found in two diesel generators.



THOMAS W. DIXON COLLECTION

In government service, leased B&O combine 1401 is unlettered.

The antennas also caused problems. WHSD staffers learned that a given car's vertical limits were 13½ feet from railhead to roof, which left just 6 inches of working room for antennas and their insulators. As this problem was being solved with special equipment applications, a second regulation had to be met—the AAR required the antennas to be placed in wooden troughs as a precaution against electrocution.

WHSD's first solution placed the antennas in a covering called poly tubing. The plan seemed to be working during practice runs until a railroad inspector asked about the "neon sign" atop 1401. The "sign" was an arcing of the antennas owing to water that had condensed in the poly material. This problem was eventually rectified by putting the equipment in copper tubing and painting it black.

When all tests were complete, the 1401 was designated as railmobile radio station WTE. With it, President Roosevelt had links to the private radio network of the White House, to WAR (the War Department's primary station), and through WAR, the international U.S. Army Command and Administration Network. This made him the first global leader to have 24-hour access to domestic and international locations while he was mobile.—*Fred B. Wrixon*

in direct contact with government and military officials when necessary. This was possible owing to special features of a special communications car, B&O 1401 [see sidebar, above].

As car 1401 was being outfitted, Dewey Long, White House travel director; Michael Reilly, head of the Secret Service; and other planners by October 1942 had decided on a standard Washington embarkation point: the annex of the U.S. Bureau of Engraving and Printing. Here, on the east side of 14th Street, a railroad spur had been built to receive supplies. The site was below street level and concealed from normal lines of sight.

From his first term in office, President Roosevelt most often traveled aboard the *Roald Amundsen*, one of a series of seven Pullman office-type cars built 1927-29, six of which were named for famous explorers. After Pearl Harbor, Mike Reilly and Steve Early, an influential presidential secretary, decided that, in the interest of safety and security, the President should have a specially assigned, specially equipped car. FDR agreed after being told that the improvements would benefit future Presidents as well. Reilly, Early, and Pullman officials chose the *Ferdinand Magellan*, one of the explorer-series cars.

Pullman's Calumet Shops in Chicago gave the *Magellan* a complete overhaul that included armor-plating and other custom features [see sidebar on page 26]. FDR first saw the car on December 18, 1942, and fully approved of all the changes. On that particular Friday, he was again on his way to Springwood and thoroughly enjoyed the renovations during the ride.

TO CASABLANCA, VIA MIAMI

Roosevelt's trips to top-secret meetings often began by train. For example, on January 9, 1943, FDR left the capital and went north on the B&O, the usual routine for his trips to Hyde Park. But not far out of Washington, at the Fort George Meade Army base in Maryland, the train was turned around, destined to Florida.

The President traveled to Miami over the normal fast passenger route, using PRR; Richmond, Fredericksburg & Potomac; Atlantic Coast Line; and Florida East Coast. At Miami, U.S. Army vehicles transferred baggage and supplies to a place called Dinner Key; a few hours later, FDR and his companions left the train and went there by auto. At a Pan American Airways site, the President's plane, the *Dixie Clipper*, and his staff's aircraft, the *Atlantic Clipper*, were being readied for a flight to crucial meetings at Casablanca, Morocco.

Everything had run smoothly for the President, but the same would be not true for his aides who stayed stateside. White House travel office director Dewey Long had made last-minute checks on board the planes before bidding the travelers God-

speed. He and two Secret Service men returned to the Miami location where they had left the train, but it was no longer there! Someone (apparently never identified) had ordered the train to be moved.

As Long later said, "Nobody was supposed to know that train was there, and I didn't want to go around asking people if they'd seen anything of my train." Long and the two Secret Service men, toting machine guns, finally spotted the locomotive and consist more than a half mile from its original stopping point. When FDR returned from the Casablanca conference, the train was waiting for him in Miami. He arrived in Washington on the evening of January 31 and resumed an active schedule.

AN INTERNATIONAL FIRST

The President's next extensive rail-borne endeavor was a second national inspection and morale-boosting tour, April 13-29, 1943. While the journey encompassed a smaller, circle-like route of 7,243.7 rail-miles, it still involved 23 railroads and 67 locomotives. The latter ranged from B&O P-7 Pacific *President Arthur* to a three-year-old, two-unit Union Pacific Electro-Motive E6 diesel, No. 8M1/8M2.

In the first stage of this journey, Roosevelt visited with passenger Mrs. Chiang Kai-shek, wife of the leader of Nationalist China. After she departed, the route took FDR south through Virginia and the Carolinas to South Carolina's Parris Island and the U.S. Marine base there. The train then crossed Georgia into Alabama to visit Maxwell Field, then returned to Georgia for stops at Fort Benning, the U.S. Army's parachute school; Warm Springs, the southern White House; and Fort Oglethorpe, a Women's Army Air Corps training base. From Saturday, April 17, to Tuesday, April 20, the President visited sites that included Camp Forrest, Tenn. (U.S. Army's 80th Division); Camp Gruber, Okla. (U.S. Army's 88th Division); and Douglas Aircraft's plant in Tulsa, Okla.

On April 20, FDR made history as the first U.S. President to visit Mexico. A National Railways of Mexico crew handled his train from Laredo, Texas, to Monterrey, Mexico, where Roosevelt met with Mexican President Manuel Avila Camacho, and they attended a series of festivities. Their private talks resumed after President Avila Camacho's private car and one other car of his train were coupled ahead of the *Ferdinand Magellan*. The remainder of Avila Camacho's consist followed Roosevelt's train. President Avila Camacho eventually traveled from Laredo, Texas, on the Texas-Mexican Railway to Corpus Christi, Texas, where he and FDR parted with a statement that their nations were firmly united for victory over the Axis powers.

NATIONAL ARCHIVES, COURTESY BOB WITHERS

JAMES C. SEACREST COLLECTION

Eleanor Roosevelt (middle of platform, at left in top photo) waves to Mexican President Manuel Avila Camacho's party at Flour Bluff Junction, Texas, April 14, 1943, as the two trains part ways. Tex-Mex diesels 601 (above) and 600 handled the trains out of Laredo.

The meetings and events were deemed a complete success, but the journey had had its share of unusual occurrences. Before leaving Monterrey, Dewey Long nearly had a meeting with a bayonet. As he described it, "I got off the train to rig up a field telephone when this character (a zealous Mexican guard) came at me. Every time I'd try to go for my credentials, he'd come at me with that bayonet." Unable to speak Spanish, Long had to let the guard take him to a Mexican officer, where the mix-up was resolved.

A greater security concern was caused by a delay en route northbound to Laredo. At 2 a.m. Wednesday, the train came to an unscheduled stop, so Long, Secret Service man Mike Reilly, and other staff went outside. They were nonplussed to find that the Mexican crew had left the train in the middle of the dark countryside. After some anxious searching, Reilly and Long located the trainmaster, who casually replied that the crew was enjoying its usual late-night snack off the train.

Still puzzled, Long complained, "But they can't do that. There's a couple of presidents on board." At some point, Reilly and Long were pointed toward a barely visible light. They ended up walking nearly half a mile to a small shack, where they found the crew enjoying sandwiches washed down with tequila. As presidential secretary Grace Tully later wrote, "Conversation in neither English nor [Spanish] could prevail upon them to return to the train until they had finished their meal." The train got moving again, and the

★ The heaviest Pullman ever ★

In late 1942, Secret Service head Mike Reilly and presidential secretary Steve Early saw the need for President Roosevelt to travel in a more secure car than the standard ones he had been using, and asked the Pullman Company to create one.

FDR had been using Pullman office cars in a series of seven, mostly *Roald Amundsen*. Reilly, Early, and Pullman officials chose a sister car, the *Ferdinand Magellan*, built in 1929 and due to be shopped. It had been used to transport FDR once, in 1939. (Others in the series were *Pioneer* plus four also named for explorers: *David Livingstone, Henry Stanley, Marco Polo, and Robert Peary.*)

At Pullman's Calumet Shops in Chicago, the *Magellan* was given a thorough overhaul. The standard arrangement of staterooms was changed from five to four, permitting a full interior revision from the dining/conference room to the attendants' quarters, galley, and pantry.

The four staterooms were designated, front to rear, as D, C, B, and A. The President's room (C) was connected through a full bathroom to the First Lady's room (B). Rooms D and A were guest rooms on either side. The removal of the fifth room provided three feet of increased space for the dining and rear observation areas. The dining room could accommodate a 38x72-inch mahogany table. It had eight chairs upholstered in green-and-gold striped satin damask. The walls were paneled with limed oak, and the ceilings were ivory with antique gold etchings. The observation lounge was 12 feet long, with its walls done in a light brown material that had a leather-like appearance. Chairs and a sofa provided comfortable viewing through eight windows that were glazed with bulletproof, three-inch-thick glass.

The *Magellan*'s security was formidable. Steel armor plating of a ⅝-inch thickness lined its full surface. The door between the rear lounge and open platform weighed 1,500 pounds and could be opened only from the inside. Extra features included escape hatches in the ceiling of the lounge and above the shower in the presidential suite's bathroom. The rear steps on both sides of the open platform were replaced with electric platform elevators to avoid having to use a ramp for FDR's special needs.

Refrigerators, ice and storage spaces, hot- and cold-water tanks, and air-conditioning and steam-heat equipment all added to the car's bulk. Its weight grew from a standard 80 tons to 142½ tons, the heaviest Pullman ever! Painted in dark Pullman green, the *Magellan* was 14½ feet high, 10 feet wide, and 83½ feet long. Only the name "Pullman" appeared on the letterboards, not the car name, and as a security precaution it carried no exterior number, though its official designation was U.S. No. 1.

The car served three office-holding Presidents after Roosevelt. Like FDR, Harry Truman loved to travel by rail, and used the *Magellan* more than any other Chief Executive. As Truman's guest, Winston Churchill in 1946 rode the *Magellan* to Jefferson City, Mo., to speak at Fulton, where he first used the term "Iron Curtain." In the 1948 campaign, Truman covered 28,000 miles and made almost 350 speeches from the car. Its rear platform is the setting for the famous photos of Truman holding a *Chicago Tribune* with the erroneous headline "Dewey Defeats Truman."

Dwight D. Eisenhower seldom used the car during his presidency, although records exist of trips to State College, Pa., and Defiance, Ohio, plus one, in 1953, to address the Canadian Parliament in Ottawa, Ontario. Mamie Eisenhower, who preferred train travel, made the last official trip on the *Magellan*, from Washington to Groton, Conn., to christen the USS *Nautilus* in 1954.

After sitting idle for four years, the *Magellan* was transferred to the U.S. Army at Fort Holabird, Md., in April 1958, and declared surplus later that year. The Smithsonian Institution was offered the car but did not act, and rail historians at the University of Miami learned of the car's availability. After a complex transaction, the group beat the Smithsonian's offer of $1 by $99 and was awarded the car. The university group became the genesis of the Gold Coast Railroad Museum, which was given custody of the car by the school in 1959.

The *Magellan* was listed in the National Register of Historic Places in 1978, and the next year, Gold Coast received permission to place the seal of the President of the United States back on the rear-platform railing.

In fall 1984, the Gold Coast group took the car to Washington for a rail convention and to get it inspected toward qualifying as a National Historic Landmark. Since the election campaign was on, the museum asked the White House staff if President Ronald Reagan would like to make a speech from the famous car platform. The White House came back with a surprise, requesting use of the *Magellan* on a one-day, whistle-stop campaign trip from Dayton to Perrysburg, Ohio. The five-stop trip took place on October 12.

The *Magellan* returned to its Miami display site, and all was quiet until Hurricane Andrew devastated South Florida, including the museum, in August 1992. Although steel beams fell on the car, it sustained little structural damage. After a two-and-a-half-year restoration, the *Ferdinand Magellan* in October 1996 was placed back on public display.—*Fred B. Wrixon and Michael Hall*

TWO PHOTOS, MICHAEL HALL COLLECTION

Pullman office car *Ferdinand Magellan* is stripped for rebuild in 1942 at the company's Calumet Shops on Chicago's south side.

For security reasons, *Ferdinand Magellan* displayed neither its name nor its number, U.S. No. 1.

presidents parted after a photo session at the Flour Branch Junction wye near Corpus Christi.

FDR's train moved north on the MoPac. At Fort Worth, the presidential party visited the Roosevelts' son Elliott at his ranch. Mrs. Roosevelt and her staff remained there, but FDR resumed his travels, heading west on April 22. By the 24th his train was in Colorado, and at Camp Carson near Colorado Springs, FDR got to see one of the arsenal of democracy's important new weapons, the bazooka.

The last Colorado stop was in the Denver area, with visits to a hospital, airfield, and the Remington weapons factory. There followed a series of similar tours on a generally easterly route with visits in Kansas (Fort Riley), Nebraska (Martin bomber plant), Indiana (Republic Aviation Corp.), and Kentucky (Fort Knox). The train returned to Washington on April 29.

CANADIAN RESPITE

After a busy spring and early summer, the rails provided the President with some extended off-the-record recreation in Ontario on Lake Huron. On July 30, FDR left Washington. Along with his regular staff was a group of dignitaries including Adm. William D. Leahy, chief of staff; Jimmy Byrnes, director of the Office of War Mobilization; Rear Adm. Ross T. McIntire, White House physician; and special advisors Edwin M. Watson and Harry Hopkins (the latter arriving later).

After a short stop at Springwood, New York Central took the train on to the border crossing into Canada at Buffalo-Fort Erie. At Welland, Ont., a new engine crew and pilot came on board for a short run to Hamilton on the Toronto, Hamilton & Buffalo, an NYC-Canadian Pacific subsidiary. There, CPR power and crews took over for the run up to the fishing camp site of Little Current, Ont., on Manitoulin Island in Georgian Bay. Rail access was a CPR branch off its Sudbury-Sault Ste. Marie main line.

Mike Reilly, Dewey Long, and their staffs had scouted Canadian locations and had chosen Georgian Bay, renowned for its fine black bass. At Little Current, they found a CPR spur that was near the water, so the well-stocked train could provide many amenities that were otherwise scarce in the remote region.

Along with the equipment on car 1401, communications were also set up at Birch Island. These connections consisted of twice-a-day airmail, plus phone and telegraph links with the White House. Thus prepared, Roosevelt and his friends were able to spend some restful days away from the hubbub of Washington.

The Canadian days were not without incident. When some communications

CLASSIC TRAINS COLLECTION

San Diego & Arizona Eastern train 362 leaves San Diego on October 16, 1944, behind the same engine, T-31 4-6-0 2362, and on the same line FDR took east September 25, 1942.

ROBERT F. COLLINS; LOUIS A. MARRE COLLECTION

R.R. WALLIN; LOUIS A. MARRE COLLECTION

MoPac 4-6-2 6614, at Sallisaw, Okla., with train 125 (middle photo), stalled on the hill into Camp Robinson, Ark., near Little Rock, with FDR's train April 18, 1943. Rare 1938 EMC NW4 diesel 4102 helped switch the train April 26 at the Martin bomber plant near Omaha.

★ FDR's last ride home ★

When Franklin D. Roosevelt died in Warm Springs, Ga., at 3:35 p.m. Thursday, April 12, 1945, dozens of railroad officers scrambled to transform FDR's train into a funeral procession. Southern Railway, having delivered the President to the "Little White House" on March 30, was storing the 10-car train in Atlanta.

Railroaders quickly prepared two Southern light Pacifics, Nos. 1262 and 1337, for the 74-mile deadhead trip south, and added an additional Pullman sleeper in time for a 9:53 p.m. departure. At Williamson, the locomotives were turned to be headed north the next day, and another engine pulled the train up the branch to Warm Springs, arriving at 1:25 a.m. Friday.

Government and railroad personnel spent the rest of the night loading the special party's autos and personal belongings. The casket would not fit through the *Ferdinand Magellan*'s rear door, and the lounge's sealed windows couldn't be removed. So *Conneaut*, a 7-compartment/buffet/lounge that housed the Secret Service, was switched to the rear of the train to receive the body. This required removal of the lounge's furniture and construction of a ramp—and a strong table to serve as a bier.

With the funeral party on board, the train eased away from Warm Springs at 11:13 a.m. Friday and headed back toward Atlanta. It followed a slow, hastily devised 24-hour schedule on Southern to Washington, D.C., to accommodate the thousands of mourners at trackside. The only stops permitted were for operational purposes, at division points and coal and water stations.

In Atlanta, immense clusters of people stood, awed and hushed, as the train threaded between factories, warehouses, and residences. Downtown traffic was jammed for blocks. Eight of Southern's heavy Ps-4 class Pacifics forwarded the train north—Nos. 1409 and 1394 from Atlanta to Greenville; 1401 and 1385 to Salisbury, N.C.; 1400 and 1367 to Monroe, Va.; and 1366 and 1406 to Washington.

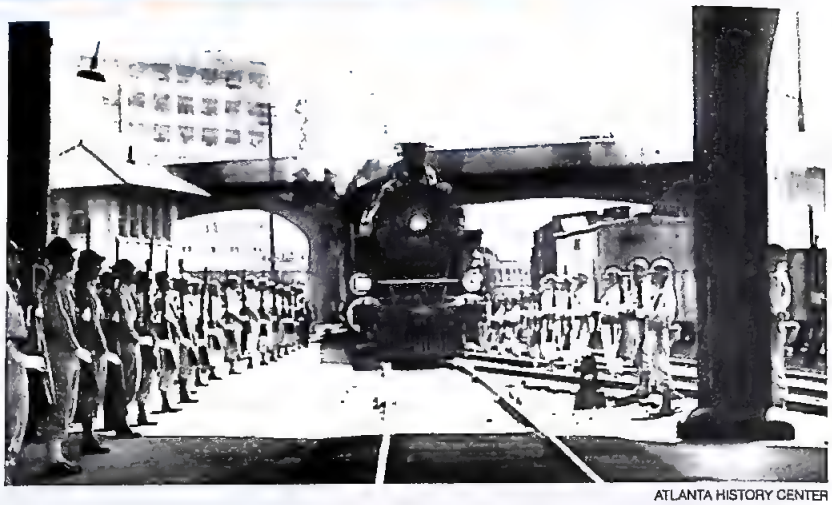
After dinner, Eleanor Roosevelt, who had hurried to her husband's side after she received the news, slept—or tried to—in his bed in Room C of the *Magellan*.

"I lay in my berth all night with the window shade rolled up," she wrote, "looking out at the countryside he loved and watching the faces of the people at stations, and even at the crossroads, who came to pay their last tribute all through the night."

In the wee hours, the train stopped at a water tank between two cliffs of farmland. An impromptu choir of African-Americans sang "Hand Me Down My Walkin' Cane"—a song with which the polio-stricken Roosevelt would have identified.

After a Saturday afternoon funeral at the White House, the cortege left for Hyde Park at 11:03 p.m. for the burial at Springwood, Roosevelt's beloved home. There were now three trains—FDR's, swelled to 17 cars and carrying the new President, Harry S. Truman; a second train of 13 cars for Congressmen and Supreme Court justices; and a third for an escort of 454 Marines. The trains were pulled by Pennsylvania GG1's to New York and NYC Hudsons the rest of the way.

Roosevelt's body arrived in Hyde Park at 8:40 a.m. Sunday, and it was soon laid to rest in his mother's rose garden.—*Bob Withers*



ATLANTA HISTORY CENTER

Greeted by troops, the Roosevelt funeral train, pulled by Southern Ps-2 Pacifics 1262 and 1137, arrives Atlanta's Terminal Station on April 13, 1945.

NYC PHOTO BY ED NOWAK; CLASSIC TRAINS COLLECTION

NYC PHOTO BY ED NOWAK; CLASSIC TRAINS COLLECTION

Car *Ferdinand Magellan* wouldn't accommodate the casket, so it ran ahead of the *Conneaut* on the funeral train, shown passing Cold Spring, N.Y. (middle photo) and arriving Hyde Park behind New York Central 4-6-4 5283.

gear on the 1401 broke down, Long and Reilly "strung" to the rescue, politely commandeering the telegraph office in the CPR station. There, it was primarily Long and his staff who connected to a line linked with U.S. telegraph wires. After a tense wait to make certain they had White House contact, Long and his aides maintained a 30-hour vigil, which concluded when they were certain the repairs aboard car 1401 were completed.

The relaxation time was beneficial, for the President resumed a busy schedule after returning to Washington on August 9. Canada was soon to be the scene of high-level business with a rail trip on August 16 to the first Quebec Conference, held August 17-24. B&O led the way to Claremont, N.J., and the change to the NYC. At Albany, the Delaware & Hudson took over up to Montreal, and Canadian Pacific forwarded the train to Quebec City.

Conference participants included Great Britain Prime Minister Winston Churchill and the combined Anglo-American Joint Chiefs of Staff. Discussions involved sharing atom bomb research, aspects of the future invasion of continental Europe, and rebuilding the post-Mussolini government of Italy.

According to Mike Reilly, FDR's rail route had been a successful secret in Canada until the return trip through Montreal. During a short operational station stop, there were two obvious giveaways to an important personage's presence and then to Roosevelt himself. The first clue was a large contingent of Canadian police at the station, while the second was the sighting of Fala, FDR's black Scottish terrier. By this time, Fala had earned the nickname "The Informer," since his daily off-train exercises were a clear indication that his owner was nearby.

Rail travel was not involved with FDR's journey to the linked conferences at Cairo, Egypt, and Tehran, Iran. Departing on November 11, 1943, he went by auto to Quantico, Va., to board the yacht *Potomac*, which took him to the battleship USS *Iowa* for the ocean voyage. On his return, he reversed passage via these ships, with the *Potomac* returning him to the Washington Navy Yard.

Though a seasoned whistle-stop campaigner, Roosevelt did not travel by train extensively for political purposes early in the 1944 presidential race. Since he was the armed forces' leader, he and his advisors decided it was not appropriate for him to be linked with the ballyhoo of multiple stump speeches on the chicken-and-peas circuit again. With his nomination as the Democrats' candidate a certainty, he didn't even make a direct appearance at his party's national convention in Chicago. Instead, he accepted being chosen for a fourth term via a live radio broadcast to the convention delegates on July 20, 1944.

CANADIAN PACIFIC

This scene on CPR's main line along Lake Superior's Jack Fish Bay exemplifies the getaway nature of FDR's 1943 fishing trip on Manitoulin Island, reached by a CPR branch.

He gave his speech from the lounge of the *Magellan* while visiting the U.S. Marines' site at San Diego. From that port, he left for base visits and war-planning meetings in Hawaii and Alaska. After returning to Seattle, he rode the rails back to Washington. At its August 17 conclusion, his journey had amassed 13,912 combined miles of rail and ocean travel.

Within a month, FDR made another visit to Canada for the Second Quebec Conference, held September 9-21. The train followed the same route as before: B&O-RDG-CNJ-NYC-D&H-CP. Again meeting with Churchill, other British officials, and Canadian officials, Roosevelt discussed post-D-Day diplomacy and military decisions. Subsequently, his aides let some time pass before permitting the President to resume more political journeys.

ON THE CAMPAIGN TRAIL

Closer to election time, FDR did hit the campaign trail by train. On the evening of Thursday, October 26, he rode the B&O northward, with a stop in Wilmington, Del., followed by a full day of tours at sites in Philadelphia. The Reading took over from the B&O at Eastwick, Pa., to Grays Ferry, Pa., where PRR accepted the train, bound for Chicago. En route, the President made one stop for a speech, in Fort Wayne, Ind., before arriving in Chicago at 6 p.m.

In the Windy City, FDR stayed aboard the *Magellan* on Illinois Central trackage before motoring to nearby Soldier Field. On a cold evening, he spoke from a reportedly awkward auto ramp arrangement. According to William D. Hassett, assistant presidential press secretary, the Chief Executive had a difficult time trying to personalize his speech before the full-capacity stadium crowd.

Nor were weather and audience conditions ideal in the East. As autumn progressed, campaign visits to New York and Boston had problems. In Gotham, the rail journey went smoothly, but rain kept attendance down and played havoc with the President's speech for friend Sen. Robert Wagner at Ebbets Field in Brooklyn.

In Boston, the conclusion of FDR's last campaign swing, the audiences were numerous and friendly, but rail limitations caused problems. The long campaign train proved too much for a Boston & Albany suburban tank engine to manage. The cars had to be pulled in reverse from B&A's Beacon Park Yard some 11 miles to the Riverside area.

DIPLOMATIC FINALE

Victory in the November election returned FDR to the Oval Office for another unprecedented term. After holiday festivities, Roosevelt began what would be his last major diplomatic journey.

Just two days after his inauguration on January 20, 1945, the presidential train secretly left the Bureau of Engraving spur. With FDR, the passenger list included Chief-of-Staff Admiral Leahy; Adm. Wilson Brown, and Maj. Gen. Edwin Watson, the naval and military aides respectively; political advisor Ed Flynn; and Roosevelt's daughter, Anna, acting as his secretary.

Leaving Washington before 11 p.m., two engines took the train via RF&P to Doswell, Va., then on the Chesapeake & Ohio to U.S. Navy facilities at Newport News,

FREDERICK L. YE

Richmond, Fredericksburg & Potomac 4-8-4 610, which led the first leg of FDR's April 1943 nationwide tour, rolls south in 1948 at Dos well, Va., where on January 20, 1945, the POTUS train carrying FDR bound for the historic Yalta meeting moved from RF&P onto C&O.

RICHARD E. PRINCE

Southern Ps-4 class 4-6-2 1401, pictured in Atlanta, participated on FDR's funeral train; today it is on display at the Smithsonian.

E. F. PHILLIP

Pacific 1222 stands in for all Southern's light 4-6-2's that hauled FDR to and from his Warm Springs, Ga., retreat on an SOU branch

where the train stopped at Pier Six alongside the cruiser USS *Quincy*. Roosevelt boarded after sunrise and sailed at 8 a.m. He was headed for the world-changing meeting with Prime Minister Churchill and Soviet Premier Josef Stalin at Yalta, on the Crimean Peninsula in the Black Sea.

The physical and mental rigors of the Yalta Conference took their toll on President Roosevelt's already declining health. When he returned to the United States on February 27, his burdens were increased by the loss of his close advisor, Edwin Watson, who had suffered a fatal stroke while sailing back aboard the *Quincy*. The rail return to Washington was one of mixed moods. FDR had to be upbeat for his address to Congress on March 1 regarding the Yalta meeting, but his family and advisors knew of his inner torments and wanted him to have a long rest.

He gained some respite from Washington's complexities with a visit to Springwood at Hyde Park in late March, and a major break was planned with a fortnight-plus stay in April at his southern retreat in Warm Springs, Ga. When the presidential special left the capital on March 29, the schedule for his future activities was already being set. After a return to the White House on April 18, he was to go west on April 20 to arrive in San Francisco in time for the United Nations Conference April 25.

But the 721.5-mile rail journey to western Georgia, mostly via Southern Railway, would be the last Franklin D. Roosevelt would take. On April 12, 1945, while at the Little White House in Warm Springs, he died of a cerebral hemorrhage. ■

★ Wartime Advertising ★

WAR RECORD of Southern Pacific's Daylights –"the most beautiful trains in the world"

'Way back in 1937, Southern Pacific introduced the streamlined *Daylights*, streaking along the blue Pacific shore between San Francisco and Los Angeles.

The trains "caught on" at once, and were soon among the most popular in America. Pleasure-travelers clamored to ride these "most beautiful trains in the world," as they were soon called, and thrilled at the 470-mile daylight journey through orchards and valleys, and along the blue Pacific shore for more than a hundred glorious miles.

Tourist travel on the streamlined *Daylights* ended soon after Pearl Harbor. Now these famous coastal trains, and their companion *Daylights* through the San Joaquin Valley, are carrying nearly 3,500 passengers a day, including many in uniform. Their war record: 833,510 passengers in 1942; 1,153,585 in 1943; 1,268,008 in 1944!

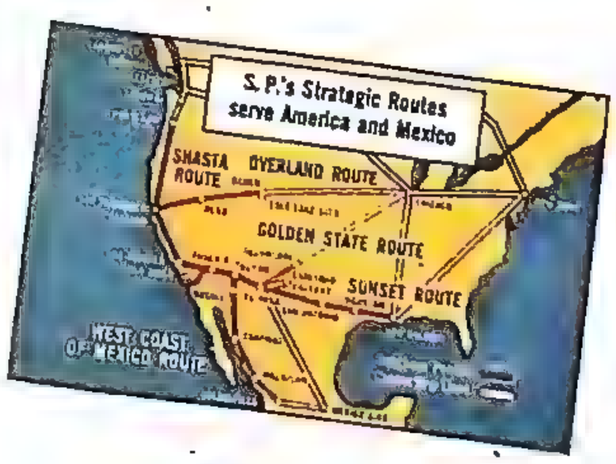
Today the *Daylights* are vital links in America's wartime railroad system. Were it not for the great job these trains have done, many essential travelers would be without transportation.

When peace comes, vacationists who "go one way, return another" on S.P.'s famed Four Scenic Routes to California again will trace the Mission Trail between San Francisco and Los Angeles on the *Daylight*, through Santa Barbara and near the Monterey Peninsula. Or they may go by night on the luxurious *Lark*, or through California's great central valley on the *San Joaquin Daylight*, near Sequoia and Yosemite National Parks.

But that must wait.

Now night and day the war trains roll on Southern Pacific's 15,000 miles of line—on our SHASTA ROUTE from the evergreen Pacific Northwest, over the high Cascades and down past Shasta Dam to San Francisco; on our SUNSET ROUTE from New Orleans through the Old South, Texas, New Mexico and Arizona to California; on our OVERLAND ROUTE from Chicago straight across mid-continent; on our GOLDEN STATE ROUTE through El Paso and Southern Arizona.

Night and day the war trains must roll until Japan is defeated.



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The friendly Southern Pacific

Headquarters: 65 Market Street, San Francisco 5, California

JEFF HAMPTON COLLECTION

In 1945, Southern Pacific commissioned a series of four-color ads featuring the work of San Francisco artist Fred Ludekens. Each scene depicted one of SP's main lines from an elevated vantage point. This ad, touting the *Daylight* and its Coast Line route, came out in September 1945, just after V-J Day.

Douglas MacArthur's locomotives

JOSEPH P. SADLER

When Central of Georgia renamed its 2-8-2's, it wrote the general and told him so

BY **CHARLIE KNIGHT**

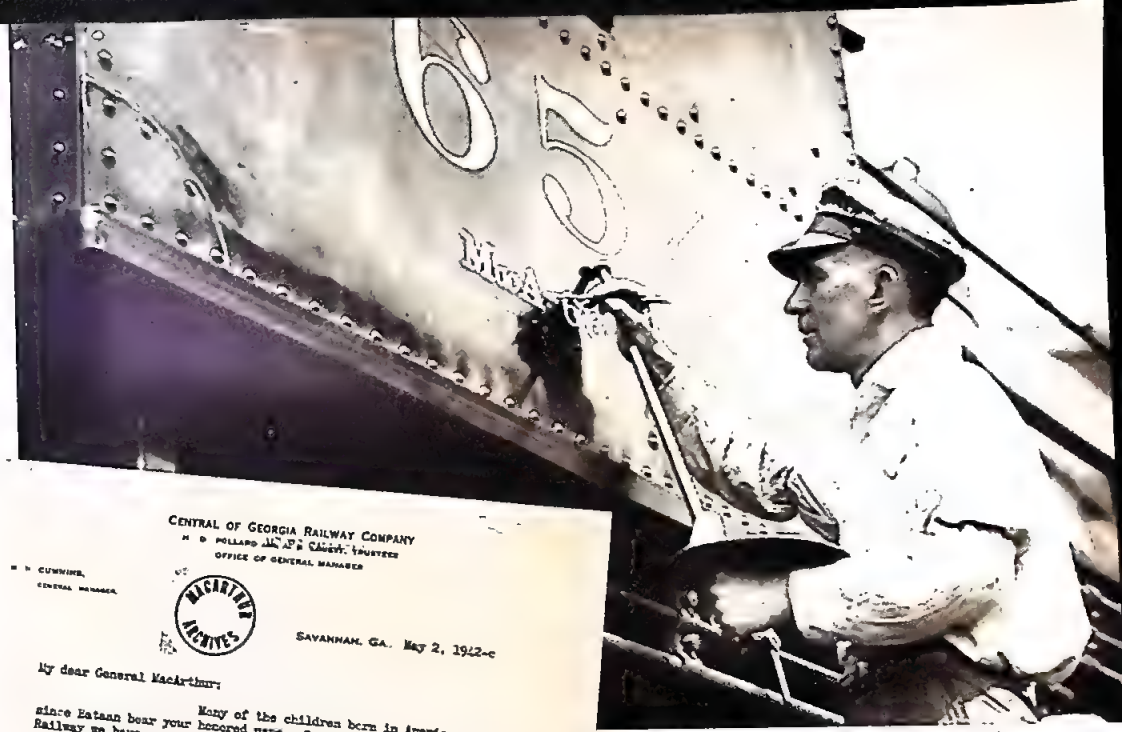
When the United States entered World War I in 1917, many states and localities went to great lengths to remove German influences from society. Streets with Germanic names were renamed, and many older cities and towns boast a "Liberty Street" whose patriotic name dates to this time. German words in popular culture were targeted—"hamburger" and "sauerkraut" became "liberty sandwiches" and "liberty cabbage." In some states, teaching the German language was banned in schools.

This patriotic fervor resurfaced nearly a quarter century later with the Japanese bombing of Pearl Harbor on December 7, 1941, and the subsequent declaration of war on the United States by Germany and Italy, plunging the country again into a world war. America's railroads, of course, played a large part in the country's mobilization for war, and one in particular, the Central of Georgia, had a unique way of displaying its patriotic spirit.

In 1893 Baldwin had produced a narrow-gauge 2-8-2 locomotive for a Japanese railway. The type proved to be popular with American railroads as well—10,000 or more of the wheel arrangement were in service on North American lines in the early 1940's. Because of its association with Japan, the locomotive type came to be called Mikado, a term used to refer to the Emperor of Japan.

Central of Georgia, according to company records, operated 77 2-8-2's, numbered 1751-1760 and 1801-1867 (renumbered in 1925 to 571-580 and 601-667). The first one came in 1912 from Baldwin, but "the Central" also bought 2-8-2's from Alco, Lima, and the Illinois Central, which owned CofG from 1909 to 1948. CofG also converted several of its other locomotives to 2-8-2's, and the reliability of this locomotive type is evidenced by a 1949 CofG roster listing 67 still in service.

Following Pearl Harbor, the Mikado type became a likely candidate for a new moniker, and one did not have to look long or hard to find the new namesake. Gen. Douglas MacArthur was commander of the United States Forces in the Far East, including those besieged by the Japanese in the Philippines. MacArthur



A Central of Georgia worker (right) reletters 2-8-2 654's cab from "MK" class to "MacA" to reflect the railway's patriotic gesture, detailed in the exchange of letters (below right). When photographer Sadler sent the photo (left) to TRAINS of sister 649 charging upgrade into Irondale, Ala., in October 1941, he noted the 1942 name change.

PHOTO AND LETTERS, MACARTHUR MEMORIAL ARCHIVES

CENTRAL OF GEORGIA RAILWAY COMPANY
H. D. POLLARD, JR., A. F. & C. Cashr., TRUSTEES
OFFICE OF GENERAL MANAGER

R. R. CUMMINS,
GENERAL MANAGER.

MACARTHUR ARCHIVES

SAVANNAH, GA. May 2, 1942-c

My dear General MacArthur:

Many of the children born in America since Bataan bear your honored name. On the Central of Georgia Railway we have carried this idea a little bit further and have taken the liberty of bestowing the name of "MacArthur" on 72 freight locomotives.

They were formerly known as "Mikadoes". Their builders, The Baldwin Locomotive Company, in 1897 sold to the Nippon Railway a type of locomotive which was designed to perform well under difficulties. They worked satisfactorily and their builders adapted the type for use on American Railways. It did not seem fitting to us that the name "Mikado" then given this engine should now be used, and we, therefore, with the consent of the Baldwin people, gave them a name more in keeping with prevailing conditions.

Our "MacArthurs" are capable of rendering fine service under difficulties. They are sturdy and efficient. As they go up and down our 2,000 miles of line they serve to remind our people of you and the men in your command, some of whom were formerly in our employ. As the "MacArthurs" do their part and pull their loads in behalf of their country, just so are our people "pulling" for your welfare, your safety and the victory we know you will bring about if it is humanly possible.

You may be interested in the attached photograph which shows the lettering on the side of the locomotive "MacA" replacing the former lettering "MK".

With all good wishes,

Sincerely yours,

R. R. Cummins
General Manager

GENERAL DOUGLAS MacARTHUR,
c/o War Department,
Washington, D. C.

MACARTHUR ARCHIVES

8 June, 1942

Dear Mr. Cummins:

This is to acknowledge with thanks your kind letter of May 2nd, 1942, and the photograph attached thereto.

I am grateful to you and to your company for giving my name to your freight locomotives. It is my hope and belief that the men in my command when you laid in sand also your efface our enemy just as effectively as your firm has erased 'Mikadoes' from the side of your locomotives. To that end, I know the entire American people are fully determined, and if the remaining of your locomotives will help in their mighty effort, I am thankful to you for thus making use of my name.

Most sincerely,

DOUGLAS MacARTHUR

Mr. R. R. Cummins
General Manager
Central of Georgia Railway Co.
Savannah, Georgia

was born on January 26, 1880, in Little Rock, Ark., the son of Capt. Arthur MacArthur and Mary Pinkney Hardy MacArthur. Arthur was a noted Civil War veteran and Medal of Honor recipient who would retire a lieutenant general, while Mary was the daughter of a wealthy Tidewater Virginia family.

Douglas graduated first in his class at West Point in 1903, posting the second-best scholastic record, to Robert E. Lee, at the United States Military Academy. MacArthur had served with distinction in World War I, in the 42nd "Rainbow" Division; had been superintendent of West Point; had been Chief of Staff of the Army; and had served for years in the Philippines prior to World War II. (Interestingly, MacArthur in 1909 had turned down a job offer from the Union Pacific.) It was obvious to most in early 1942 that the general would be the key figure in the war on Japan, so CofG selected "MacArthur" as the new moniker for its 2-8-2 type locomotives.

In May 1942, R. R. Cummins, Central of Georgia's general manager, wrote to MacArthur informing him that the railroad had renamed 72 of its locomotives in his honor.

"It did not seem fitting to us that the name 'Mikado' . . . should now be used," Cummins wrote, and CofG "gave them a name more in keeping with prevailing conditions." The following month MacArthur replied, thanking the company and stating his hope that his forces "can also efface our enemy just as effectively as your firm has erased 'Mikadoes' [sic] from the side of your locomotives."

While some sources indicate that other railroads, including Baltimore & Ohio and Union Pacific, also renamed their 2-8-2's as MacArthur types, Central of Georgia apparently was the only company to notify the general, in writing, of the change. In the thousands of documents and personal papers of Douglas MacArthur held at the MacArthur Memorial Archives in Norfolk, Va., CofG's is the only correspondence relating to the renaming of locomotives during World War II.

It is possible, of course, that other railroads wrote to MacArthur prior to April 1942. If so, those letters undoubtedly are lost, because nearly all of MacArthur's possessions and papers were left behind in the Philippines, and thus lost to the invading Japanese, when MacArthur was ordered by President Roosevelt to evacuate to Australia.

MacArthur went on to recapture the Philippines and presided over the Japanese surrender in September 1945. He was responsible for the rebuilding of Japan following the war and was in command of United Nations forces during the Korean War before his removal by President Truman in April 1951. He returned home to the United States a hero to some, but hated by others. Nevertheless, he was undeniably one of the most brilliant military minds in the American military.

The Central of Georgia was but one of many entities to bestow an honor of some sort on Douglas MacArthur. But the railway's honor was one of the more unusual and visible. Unlike the "Liberty Streets" of small-town America, which remain as a reminder of the patriotic support of earlier wars, however, regrettably none of the CofG's "MacArthur" locomotives exists today. ■

Trains in White

With origins in the Civil War, U.S. military hospital trains reached their apogee during World War II

BY **ROBERT S. GILLESPIE**

Hospital trains played a unique role in the history of the United States armed forces, providing comfort and care to soldiers injured in the line of duty. These unique trains developed much like their passenger counterparts, starting as rough, miserable conveyances and gradually becoming refined, comfortable showcases of innovative design and technology. An examination of railroad rolling stock for the war wounded through several conflicts reveals how things progressed.

THE CIVIL WAR (1861-1865): FIRST REFINEMENTS

The Civil War marked the first American use of railroads in war activity. The Union Army used trains extensively to carry troops and materiel to the battlefields, so the practicality of using trains to backhaul injured soldiers became obvious. Casualties were taken to rail depots to await transport to base hospitals. The earliest trains were improvised from any available rolling stock. Troops fitted boxcars with hastily rigged tiers of canvas litters (cot-like stretchers), perilously hanging from ropes tied to the ceiling or lashed to upright poles. They sawed openings for ventilation and made beds of straw or leaves to carry additional patients on the floors.

One can only imagine the misery these wounded servicemen suffered as the cold and rain buffeted them and the boxcars' rough suspension sent their litters swinging wildly. Relief arrived (for Union personnel, anyway) in 1862 thanks to several charitable aid organizations, particularly the United States Sanitary Commission. These volunteer groups, composed primarily of women, raised funds to buy dozens of passenger cars and convert them into more suitable hospital cars with stoves, bathrooms, and other comforts. Most of these cars used shock-absorbing springs or rubber loops to secure the litters to heavy upright timbers.

These purpose-built cars offered more comfort, but initially carried little or no food, medicine, or linens. Frequent delays to allow passage of supply trains or await repair of damaged track left the passengers even more ill, hungry, and uncomfortable. These problems led to a novel solution: transforming the train into a true self-sufficient hospital. The addition of a kitchen car, a boxcar full of supplies and bedding, and cars to provide a pharmacy and crew quarters gave the train virtually the same capabilities as a traditional stationary hospital. A hospital train consisting of five hospital cars, a passenger coach (for less seriously injured persons), and supporting cars could carry up to 200 patients. The aid organizations helped supply the trains with linens, clothing, food, and even volunteer nurses.

Troops identified hospital trains by painting the locomotive and tender a brilliant red; at night, they hung a row of

A posed scene from 1954 inside a new hospital "unit car" represents an Army nurse checking on patients. Built to replace similar World War II-era cars sent to Korea, the 1954 cars arrived after the hospital-train era had ended in the U.S.

U.S. ARMY

U.S. AR

At Riardo, Italy, during World War II, an Army S160 2-8-0 heads up a hospital train composed of Italian and German rolling stock.

three red lanterns below the headlight. Confederate forces never attacked these trains. By the end of the war, 225,000 injured Union soldiers had been transported on hospital trains.

THE SPANISH-AMERICAN WAR (1898): ONE DEDICATED TRAIN

During this brief conflict, the Army used a single train of unmodified Pullman tourist sleepers as hospital cars. The train, which began running on June 17, 1898, consisted of 10 hospital cars, a dining car, a combination baggage car, and a private car for officers' quarters. Equipment on the train included four field chests with medical and surgical supplies, a sterilizer chest, and an operating table. Pullman also supplied the dining car, whose waiter and two cooks were the train's only civilian employees. The train's permanent medical staff included a surgeon, an assistant surgeon, a hospital steward, an acting hospital steward, and 20 Hospital Corps privates. The staff lived on the train, even between runs. Orders for train movements came exclusively from the Surgeon General, via telegraph.

The Hospital Corpsmen developed a novel solution to the problem of loading patients on litters onto the train. Upon arrival at the loading point, the crew separated the train into sections of two cars each, with several feet between each pair of cars. The Corpsmen formed teams to pass the patients, bucket-brigade style, from trackside up through the open end doors of the car. As in many wars, infectious diseases caused more disability than injuries; more than half of the patients had typhoid fever.

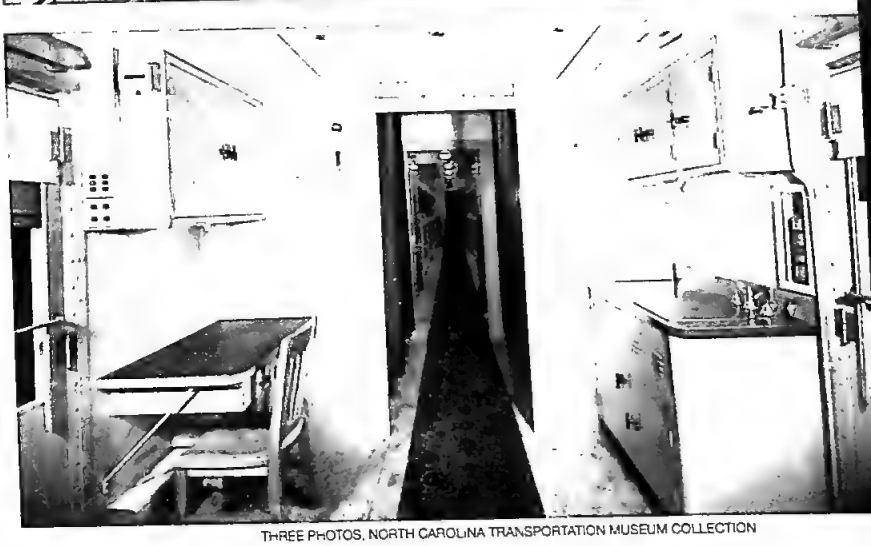
The train used several loading points and destination hospitals in Florida, Georgia, Virginia, Connecticut, Washington, D.C., and New York. Its longest trip spanned 1,100 miles, from Port Tampa, Fla., to Fort Thomas near Newport, Ky. Although the war ended in August 1898, evacuation of wounded continued for several months. The train made its final run on March 4, 1899, having traveled 44,110 miles and carried 4,704 patients.

WORLD WAR I (1914-1918): HELP FROM EUROPE AND U.S. ROADS

Army forces used an evacuation system of specific steps in World War I. Simple field hospitals that were set up just behind the front lines provided basic emergency care and stabilization. Ambulances carried patients from there to evacuation hospitals, larger institutions 5 to 50 miles from the combat. The evacuation hospitals, located on railroad sidings, served as temporary stops capable of providing mo definitive care. Patients who could not return to duty were moved to base hospitals for long-term care.

Hospital trains played a critical role in maintaining a smooth flow of patients. T constant influx of new patients from the battlefield would quickly overwhelm the evacuation hospitals if the trains did not transfer the existing patients to base hosp tals in a timely and efficient manner. For European use, the Army ordered 48 hosp tal trains from a supplier in England, an borrowed another 45 French trains. The need still far exceeded capacity, and the Army continued to use boxcars for sittin patients, carrying up to 1,500 per trip.

On the domestic front, the primary ty of car had space to transport up to 28 patients on litters, as well as a kitchen ar quarters for five staff members, making a self-contained hospital unit, appropriately named the "unit car." This served a the nucleus of the hospital train, housing the most disabled patients and supplying meals to the entire train of up to 250 passengers. Less seriously injured patien traveled in standard sleeping or chair ca as their conditions permitted. This arrangement afforded a flexible solution with minimal government investment. T military purchased only the unit cars,



THREE PHOTOS, NORTH CAROLINA TRANSPORTATION MUSEUM COLLECTION

Three views inside a "new unit car" built by ACF in May 1945 show the 36-bunk ward area (left), kitchen (top), and receiving room.

economically built by converting existing Pullmans. By contracting the use of railroad-owned sleeping and chair cars, the military paid for this additional capacity only when it was needed.

After the war, the Army disposed of the entire stock. Passenger railroads could easily accommodate the small number of patients who required transport during peacetime, and amid the soaring optimism that "the war to end all wars" had closed, few saw the need to maintain such relics.

WORLD WAR II (1939-1945): IN TIME, THE GOLDEN ERA

The German invasion of Poland in September 1939 began World War II, and in the same year, the U.S. Army began planning new unit cars, although the United States did not enter the war for another two years. The new cars drew largely from the very successful World War I unit-car design, but new features included side doors for easier patient loading and a small operating room. Although it was equipped for minor surgery, the operating room served primarily for changing dressings on wounds during long trips, as stationary hospitals afforded far better facilities for surgery. In addition, doctors rarely cleared a patient for transport until his condition stabilized, so the likelihood of one requiring emergency surgery en route remained slim. The new design reduced the patient capacity of each car from 28 to 10, and designers subsequently decided to eliminate the patient space altogether to allow

No. 89300 was the first of 200 "new unit cars" built by ACF during 1944-45. Inside were, from the vestibule end (left in photo), staff quarters, ward area, receiving room, and kitchen. Rebuilt, many had postwar careers in passenger service.

AMERICAN CAR & FOUNDRY

for an expanded kitchen, suitable for feeding up to 500 men.

All patients would travel in leased civilian tourist sleepers or chair cars behind the unit car. Two prototypes, converted from Pullmans, went into test service in 1941. In a classic military snafu, the initial runs revealed that patients on litters could not be carried into the hospital car for dressing changes. Designers inexplicably overlooked the fact that the restrooms at each end of the tourist sleepers created a narrow, offset corridor, with 90-degree turns the litters could not negotiate. This forced a change in strategy from carrying litter patients in contracted civilian sleepers to developing unique, dedicated ward cars.

Accordingly, the Army Medical Department directed the Pullman Company to convert four sleepers. Pullman reconfigured the restrooms to create a straight center aisle, added sliding side doors, and removed all of the interior furnishings, replacing them with plain metal-frame two-tiered bunks. The resulting car resembled a long, narrow barracks, with rows of bunks lacking the partitions and curtains normally found in civilian sleepers.

As of December 7, 1941, when Japan attacked Pearl Harbor, the Army owned a total of six hospital cars, enough to assemble two hospital trains of one unit car, two ward cars, and additional rented chair cars. These modest beginnings would give birth to the golden era of the hospital train, as it reached unprecedented importance and sophistication.

As the United States entered the war, the Surgeon General changed direction and called for an entirely new type of car, to be called a "ward dressing car." The new design eliminated all kitchen facilities to create room for 30 patients in bunks. The car also featured a dressing-change room with a new movable operating table which could be taken to a bedside if needed. The new cars again featured rows of two-tiered metal bunks running lengthwise through the car, but this time the upper bunks had hinges, allowing them to fold down to create daytime seating on the lower bunk. The Army ordered six of these cars in March 1942, plus 12 ward cars.

The war effort continued to grow, and in January 1943 the Army ordered another 32 ward dressing cars and 64 ward cars. This and all subsequent orders included factory-installed air-conditioning; the shops later retrofitted the earlier cars as well. Public donations of books and phonograph records helped entertain patients en route.

With no kitchens, the ward dressing cars relied on the railroads' dining cars to provide meals. As wartime traffic burgeoned, the supply of dining cars and crews dwindled. Hospital train crews also complained that food was not available between scheduled meal times and during the night, so the Army turned to a solution in use on its troop trains: dedicated kitchen cars staffed by Army cooks. In August 1943, the Transportation Corps ordered 40 new kitchen cars, nearly identical to those built for the troop trains. While awaiting their arrival, the Army fitted some baggage cars as temporary kitchen cars.

The Army did not use troop sleepers to carry patients. The troop sleepers, based on a boxcar design, had little in common with the hospital cars, which originated from passenger-car shells. Medics would have encountered difficulty observing patients or carrying litters in a troop sleeper owing to the configuration of the beds being perpendicular to the aisle. Troop sleepers also lacked air-conditioning, which the Surgeon General had declared mandatory on hospital cars.

The patient evacuation system during World War II differed little from that of World War I, with battlefield casualties moved from the combat sites in steps unt a hospital ship could take them back to t United States. Upon arrival, the soldiers stayed briefly at portside "debarkation hospitals" until hospital trains moved the to the nearest regular military hospital fo long-term care.

In 1943 the Army established a new policy of developing specialized hospitals for different types of care. Instead of tran ferring patients to the hospital nearest th port of arrival, patients would go to the specialty hospital best suited to their medical needs and nearest their homes. The policy created complex logistical problems for those managing the hospital trains. Under the prior system, debarkatio hospitals could be emptied very efficiently by loading all the patients on a train and shipping them en masse to a single base hospital. The new rules required sorting and routing patients to many different

H. REID

At the Army's Fort Eustis in Virginia, 2-8-0 611 leads a recreated World War II stateside hospital train on October 14, 1960. Behind the engine is a unit car (built in 1954 but similar to a 1940's car); midtrain is a kitchen car; others are converted Pullmans.

destinations. This called for complex planning, with departing hospital trains assembled in sections to be separated later. Organizers had to arrange this quickly to empty the debarkation hospitals before the next hospital ship arrived.

Partly in response to these changes, the Army ordered a new car design from American Car & Foundry in 1944. This design, called the "new unit car," included a ward area, staff quarters, a multipurpose "receiving room" (which also served as a dressing-change room), and a shower. Most notably, the kitchen returned, occupying a small area at one end of the car. The ward space accommodated up to 36 patients stacked in three-tiered folding bunks. The cars measured 84½ feet long, 10 feet more than the earlier ward and ward-dressing cars. At the same time, many of the older cars were converted to a similar layout, primarily by removing two rows of berths to create a kitchen area. The car design had essentially come full circle, returning to the World War I-era unit-car arrangement. With the new cars, long hospital trains could leave the debarkation hospitals using a standard kitchen car to prepare all meals. As portions of the train were cut off for different destinations, those sections could then begin using their

NORTH CAROLINA TRANSPORTATION MUSEUM COLLECTION

Wide side doors on World War II hospital cars enabled easy loading of stretcher patients.

★ Honorably discharged ★

TWO PHOTOS, ROBERT S. GILLESPIE

Many Army hospital-train cars survive, but only a few have been restored to their original configurations. The U.S. Army Medical Department Museum in San Antonio, Texas, has a Korean War-era unit car on exhibit (top). A kitchen car from the same period (above) is displayed at the Northwest Railway Museum in Snoqualmie, Wash. The North Carolina Transportation Museum at the former Southern Railway shops in Spencer, which provided several photos for this article, has restored World War II car 89480, and was planning a dedication ceremony for November 17, 2007.

own smaller unit-car kitchens.

The World War I-era policy of using civilian passenger cars to bolster Army trains began to fail as the surge in railroad traffic during World War II tested the limits of car supplies. Railroads often had difficulty supplying all of the cars requested, and the military rarely exercised its legal right to displace civilian passengers, for fear of the negative publicity it would create for both the railroads and the armed forces. Railroads tried to discourage private travel during the war, and the U.S. expanded its car inventory dramatically. By the end of the war, the U.S. had procured 380 hospital cars: 2 unit cars, 80 ward cars, 38 ward dressing cars, 60 kitchen cars, and 200 new-type unit cars.

The first large-scale movement of patients by airplane took place in January 1942. A shortage of planes, concerns about altitude effects on the injured, and the growing pains associated with a new technology initially hindered widespread use of air transport. Over the next three years, though, experience smoothed out many of the problems. In addition, cargo planes ferrying troops and supplies overseas typically returned to the United States empty, creating a logical opportunity to bring injured soldiers home on the return trip.

The success of these transoceanic missions led to domestic use of medical air transport, first used on a large scale in 1944, to take patients from debarkation hospitals to general and convalescent hospitals. The war ended soon afterward, leaving the full potential of air transport unrealized, and within a year the Army had declared all but 100 of its hospital cars surplus. Many of these cars went to railroad shops for conversion to coaches and food-service cars, replacing rolling stock worn out from wartime overuse.

THE KOREAN WAR (1950-1953): FROM STEAM TO DIESEL

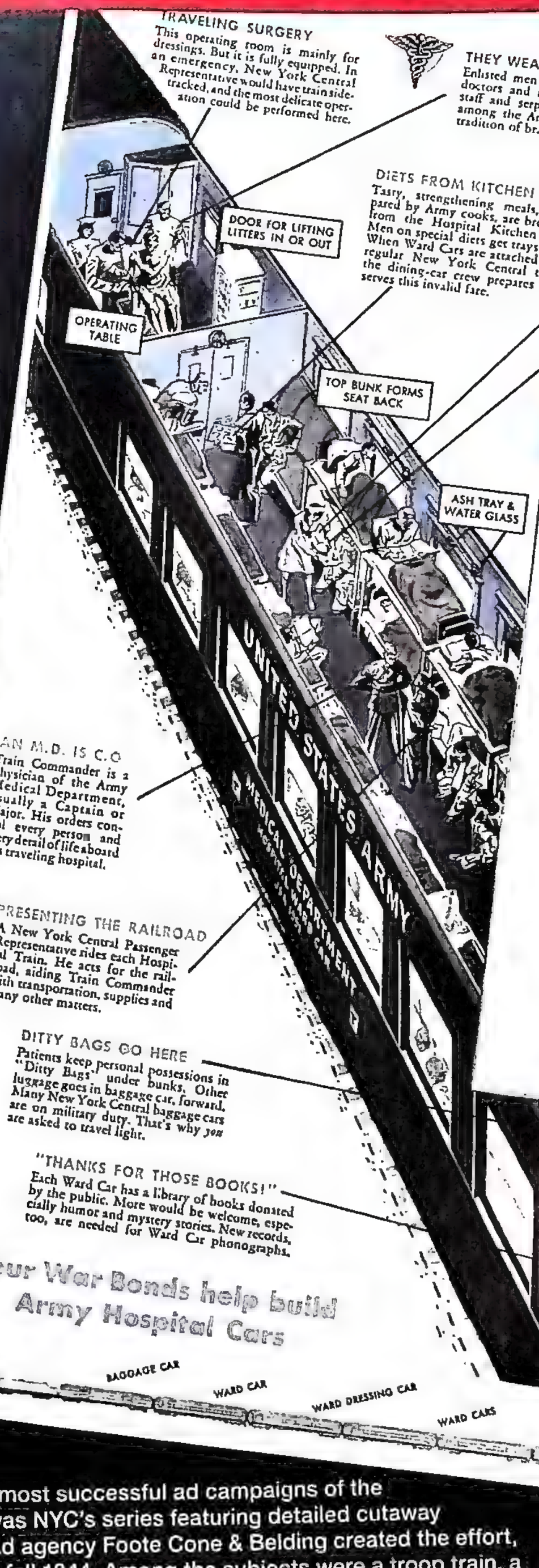
Since the initial U.S. presence in Korea was officially only in the role of "military advisors," the all-steam Korean National Railways provided the equipment and crews for early hospital trains. Medics loaded litter patients through the windows of passenger coaches and set them across the seatbacks or on the floor for their journey to the base hospital in Pusan, South Korea, where they would await air or sea transport to facilities in Japan. Field commanders requested actual hospital cars, and in late 1950 the Army shipped some of the remaining World War II rolling stock to Korea. Diesel locomotives arrived in 1951, at which time American engineers took over the throttles, with Korean pilots in the cabs.

Although the main Korean lines were standard-gauge, they lacked the generous side clearances of U.S. railways, and the American cars scraped tunnel sides and h trackside objects. Attacks from Korean insurgents posed an even greater hazard, as the opposing forces did not respect medical vehicles. As a result, the windows remained covered, and troops painted ove the red crosses to reduce the trains' visibility. Each hospital train also carried two flatcars loaded with sandbags and heavily armed soldiers for protection.

Hospital trains played a critical role in patient transport throughout the Korean conflict, but many other transport modes began to impinge on the trains' traditiona territory. Hi-rail ambulance buses offered the flexibility of road or rail use. Helicopters made their debut as medical evacuation vehicles, and the importance of fixed wing aircraft in medical transportation increased dramatically during the course of this war. The Army purchased replacements for the hospital cars shipped overseas, but they languished in storage i the U.S., eventually to be liquidated.

Quietly overlooked amid the far-reachin implications of the American withdrawal from Korea was the end of the hospital-train era. After almost a century of servic the sanctuaries on steel wheels received their honorable discharges and retired int history. ■

Wartime Advertising


TRAVELING SURGERY
This operating room is mainly for dressings. But it is fully equipped. In an emergency, New York Central Representative would have train side-tracked, and the most delicate operation could be performed here.
THEY WEAR THE CADUCEUS
Enlisted men of the Medical Corps and doctors and nurses. Their emblem, the staff and serpents of the Caduceus, is among the Army's proudest . . . with a tradition of brave and selfless service.
DIETS FROM KITCHEN CAR
Tasty, strengthening meals, prepared by Army cooks, are brought from the Hospital Kitchen Car. Men on special diets get trays first. When Ward Cars are attached to a regular New York Central train, the dining-car crew prepares and serves this invalid fare.
SHE RATES A SALUTE
The Army Nurse rates a salute . . . not only because she's a Lieutenant . . . but for her superb, often heroic service. The Army urgently needs 2,000 more trained nurse volunteers each month this year.
SCHOOL BOYS MADE THESE
Bath trays, designed by the Army Medical Department, hold basin, alcohol and powder. They are made in manual training by Junior Red Cross boys.
DOOR FOR LIFTING LITTERS IN OR OUT
OPERATING TABLE
TOP BUNK FORMS SEAT BACK
ASH TRAY & WATER GLASS
AN M.D. IS C.O
Train Commander is a physician of the Army Medical Department, usually a Captain or Major. His orders control every person and every detail of life aboard this traveling hospital.
REPRESENTING THE RAILROAD
A New York Central Passenger Representative rides each Hospital Train. He acts for the railroad, aiding Train Commander with transportation, supplies and many other matters.
DITTY BAGS GO HERE
Patients keep personal possessions in "Ditty Bags" under bunks. Other luggage goes in baggage car, forward. Many New York Central baggage cars are on military duty. That's why you are asked to travel light.
"THANKS FOR THOSE BOOKS!"
Each Ward Car has a library of books donated by the public. More would be welcome, especially humor and mystery stories. New records, too, are needed for Ward Car phonographs.
Your War Bonds help build Army Hospital Cars
UNITED STATES ARMY
MEDICAL DEPARTMENT
BAGGAGE CAR
WARD CAR
WARD DRESSING CAR
WARD CARS
KITCHEN CAR
WARD DRESSING CAR
WARD CARS
PERSONNEL CAR
How Army Hospital Trains speed wounded fighters homeward over the Water Level Route
MILE AFTER MILE, these travelers drink in each new picture framed in the windows of their Ward Dressing Car. It may be the scenic Hudson River, the rich fields of the Mohawk Valley, or the blazing furnaces of some war production center. But, always, it's *home* . . . "the good old U.S.A."
This is the last lap of the long, long journey through which the Army Medical Department has brought these wounded fighters. A journey that may have begun on a stretcher, under fire . . . but is ending now amid the care and comfort of a modern "hospital on wheels."
In this supreme service, New York Central is proud to share. Special schedules are timed to fit Medical Department needs. Speeds are planned for maximum comfort over every part of the route, and engineers exert all their skill in smooth train operation. For aboard these "trains in white" ride America's most honored passengers.
New York Central
ONE OF AMERICA'S RAILROADS—ALL UNITED FOR VICTORY
NURSE'S DESK

Among the most successful ad campaigns of the war years was NYC's series featuring detailed cutaway drawings. Ad agency Foote Cone & Belding created the effort, launched in fall 1944. Among the subjects were a troop train, a Railway Post Office car, the *20th Century*—and a hospital car.

JOE WELSH COLLECTION

Kodachrome on the home front

Photographer Jack Delano used a new type of color film to record America's railroads in time of war

BY **ARTHUR H. BLEICH** ★ PHOTOS BY **JACK DELANO**

Wartime posters and notices hang on the wall above the battered desk in the yardmaster's office at C&NW's Proviso (Ill.) Yard.

This westward view of North Western's Proviso Yard is one of many Chicago-area photos Delano made during the winter of 1942-43.

At the same time military photographers were following U.S. troops into combat during World War II, other photographers on the home front were recording the dramatic effects of the conflict on the American people. Jack Delano was one of these, a government photographer who loved trains and received what for him was a dream assignment to document the work of the nation's railroads in time of war. The year was 1942.

Delano (pronounced de-LAY-no) was born Jacob Ovcharov on August 1, 1914, in the small village of Voroshilovka in the Ukraine. His teacher father and dentist mother exposed him to music and art at an early age, setting the scene for his later interest in photography. In 1923 his family embarked on a railroad journey—an exciting adventure for a young boy—through Russia, Latvia, and Germany on the way to a new life in Philadelphia, Pa.

Jack Delano

After graduating from the Pennsylvania Academy of Fine Arts in 1937, Delano worked as a photographer for the Works Progress Administration (WPA), a Depression-era federal agency. His coverage of the lives of coal miners brought him to the attention of Roy Stryker, head of the Farm Security Administration (FSA). Stryker invited Delano to join an elite group of photographers who traveled the country documenting government projects set up to improve the lives of farmers and workers. A friend had previously suggested that Jack (he had already chosen a new first name) pick a last name that sounded more American and so, in 1940, it officially became Delano.

After Pearl Harbor, the FSA and its photographers shifted their emphasis to the war effort. In 1942, the agency became part of the Office of War Information (OWI), and the photographers swung into high gear as they were sent throughout the country to shoot pictures of military bases, factories, and farms that would appear in publications and exhibits both in the U.S. and abroad. Delano, to his delight, was assigned to document the nation's railroads.

In *Photographic Memories* (Smithsonian Press, 1997), Delano tells of being sent to Chicago to work on a months-long assignment documenting the war effort of American railroading. "I was armed

North Western 2-8-4 No. 2808, one of a dozen class J-4 Berkshires that Baldwin built for C&NW in 1927, stands in the foreground
a December 1942 view inside the road's 40th Street shops in Chicago. As always, steam's appetite for maintenance was insatiable

At Bensenville, the Milwaukee Road's big Chicago-area yard, class L2 Mikado 470 gets a bath in April 1943. The Milwaukee had 380 of the versatile L2's, built by the road's own West Milwaukee shops, Baldwin, and Alco during 1912-23.

Mikado 2576 and other freight engines steam under the coal, water, and sand facilities at C&NW's Proviso Yard in December 1942.

In a scene unimaginable by today's standards of workplace safety, a worker at C&NW's 40th Street shops spreads an asbestos mixture on a locomotive boiler.

with credentials from the FBI, the Association of American Railroads, the Headquarters of the Western Defense Command, and the War Department Office of the Chief of Transportation," he recalled.

(Delano's black-and-white wartime rail photos also were featured in *The Iron Horse at War*, by James E. Valle [Howell-North, 1977].)

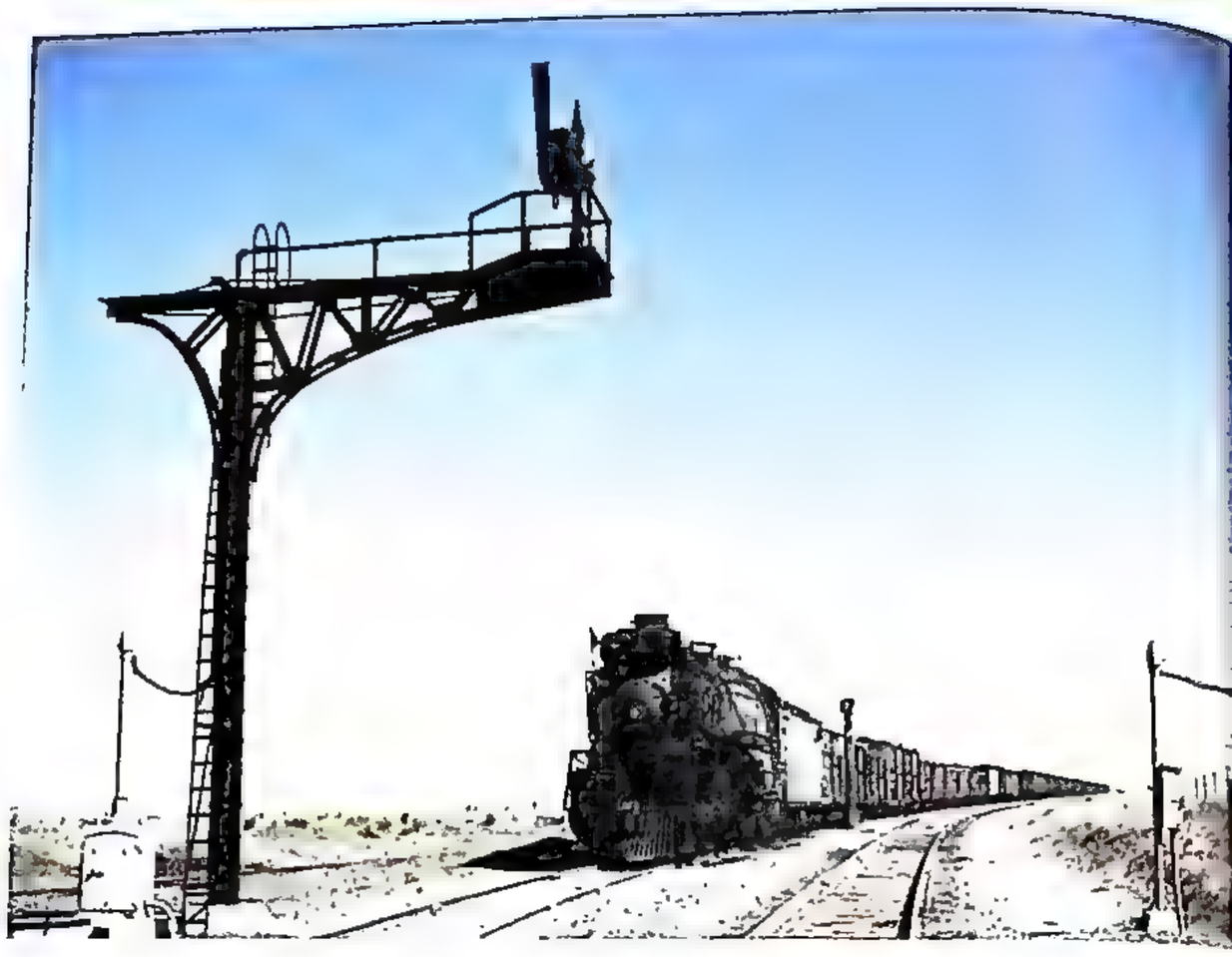
The Association of American Railroads had posted letters to all its district managers to advise them that Delano would be shooting pictures of rail operations in Chicago and would then go on to do the same in Milwaukee, St. Paul, Minneapolis, and Duluth before leaving for the Pacific coast.

To Delano, the cross-country trip was the plum. He was going to spend a month aboard freight trains riding with the crews both in the caboose and the engine cab, and he even had the authority to stop a train (with the engineer's consent) for any shots he wanted.

Most of the pictures shot by the OWI during World War II were on black-and-white print film, but a limited amount of a new color transparency film, called Kodachrome, was made available to Delano and other OWI photographers. Many were wary of the new medium, but not Delano. He plunged right in and shot more than 500 pictures with it, even though it was sometimes difficult to use because at an ASA (called ISO today) of 10, it was 5 to 10 times less sensitive to light than most black-and-white films of the time and thus required longer exposures to get usable images.

The fact that Delano would even attempt to shoot Kodachrome in the dingy interiors of

During his trip west on the Santa Fe in March '43, Delano caught FT No. 103, one of the new diesels that kept war freight on the move, being washed at Kansas City, Kans.



At Ricardo, N.Mex., 74 miles west of Clovis on the line BNSF today calls the Transcon, 2-10-4 No. 5000 waits in a siding for a meet with an eastbound train. Built in 1930, the 5000 was Santa Fe's first 2-10-4.

The station platform at Albuquerque is alive with activity during the westbound *Super Chief*'s 5-minute passenger and servicing stop.

An unidentified Santa Fe yardmaster, surrounded by the trappings of his trade, works in his office at the Texas Panhandle town of Amarillo in March 1943.

Engineer J. W. Edwards and conductor George E. Burton compare watches beside Mikado 3266 at Santa Fe's Corwith Yard in Chicago. Delano rode their freight on the first leg of his 2,000-mile trip.

backshops, roundhouses, and stations, or at night in the yards, shows that he was an experimental camera artist, eager to capture the true colors of mid-20th-century railroading. What's more amazing is that the color photos of the FSA and OWI—about 1,600 in all—lay forgotten in the Library of Congress for nearly 40 years before they were "discovered" in 1978. They are all in the public domain, and can be viewed on the Internet at www.tinyurl.com/8mf3g.

But back to Jack Delano. After his work was done in the Midwest, he set out on a 2,000-mile trip on Santa Fe Railway freight trains. "At every stop," he remembered, "I would hop off the train and photograph whatever I could, depending on the time available—the work in roundhouses and repair shops, where many women were employed, in switching towers, and in the trainmen's living quarters."

At one of his stops, Delano posted a letter to Roy Stryker in Washington, part of which said: "One of the first things I learned was that I couldn't be in two places at the same time, that is, at the caboose end and at the engine end. The distance might be anything from a quarter of a mile to over a mile, and it was impossible for me to be running back and forth because the stops were often very short and the train would start before I got to either end."

Delano remembered that, as the trip went on, he became more savvy. But even though he lost his fear of being left behind by learning to jump on the caboose as the train was moving, he still handed the brakeman his camera to take aboard because he needed both hands to hop on. He told Stryker: "Once in the caboose, I learned another lesson from bitter experience: don't stand up in a caboose unless you hold on to something, otherwise you and your camera might go flying out through the rear end of the train."

One day as he rode in the locomotive of a Santa Fe freight as it struggled to haul 100 cars of war materials—bombs, tractors, trucks, mines, and military tanks—through the Arizona hills, Delano decided to exert his authority to stop the train for a dramatic picture. The engineer quickly put him straight. "Young man, if I stopped the train here we could never get started again and would go rolling down the hill backward."

Undaunted, Delano waited until he was on a different train traversing flat desert country to get just the shot he wanted—the train rounding a curve with cars strung out behind the engine. When he made his request this time, the engineer complied. Delano

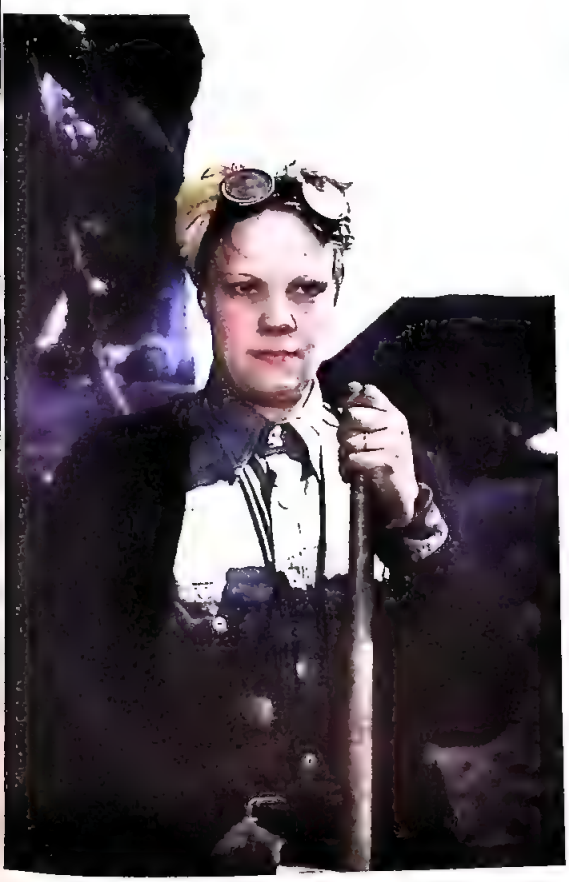
Continued on page 51

James Lynch, a C&NW employee at Proviso, was one of an army of thousands of round-house workers required in the steam age.

Rosie the Riveter, railroad-style: Engine wipers Marcella Hart and Viola Sievers climb the distinctive front steps of a C&NW H-class 4-8-4 at Clinton, Iowa.

An example of Delano's daring use of Kodachrome film is this image of black-smith John Kelseh working in the dingy confines of Rock Island's Blue Island (Ill.) roundhouse near Chicago in April 1943.

A welder at C&NW's 40th Street shops, Chicago, pauses beside a steam locomotive's pilot beam for Delano to take a portrait shot.



Delano's notes tell us that this April 1943 photo is of Irene Bracker, mother of two children, employed by the C&NW as an engine wiper in Clinton, Iowa.

Denim-clad Daniel Senise tends to a switch in an Indiana Harbor Belt yard somewhere in the Chicago area in February 1943.

Like the railroads, the Great Lakes shipping industry worked flat-out during World War II. At right and below, Delano captured the Pennsylvania Railroad's steam-powered car dumper at the Lake Erie port of Sandusky, Ohio, loading coal into the hold of the steamer *Algosoo*, an Algoma Central Marine boat.

At PRR's dock in Cleveland (above and below), electric Hulett unloaders methodically relieve the Interlake Steamship Co.'s *E.A.S. Clarke* of its cargo of iron ore in May '43. Small shunt locomotives positioned cars under the Huletts.

Continued from page 47

described the incident with obvious relish:

"As he [the engineer] applied the brakes I could hear the clackety-clack go from car to car through the entire length of the train." Once stopped, Delano hopped off and set up his 4x5-inch view camera on a tripod only to find that the composition wasn't quite right—the train needed to go forward some more. He shouted to the engineer to move the train up.

"Never had I had such a sense of power," he recalled. "I felt like Hercules. Wow! To think that I could move that whole train with just the wave of my hand!" When the shot was framed to his satisfaction, Delano signaled the engineer to stop and then exposed a few sheets of film. Finally, he waved the engineer to get going again and hopped on the caboose when it rolled by.

Jack Delano completed his war assignment and went on to do many other photographic projects. He died on August 12, 1997, at the age of 83, having left a legacy of thousands of black-and-white and color photographs taken for the government during tough times and better ones. But nowhere did his work shine more than in his color shots of America's railroads in wartime. He put his all into that assignment, and it shows. ■

★ Impressions ★

As Jack Delano rode cross-country on freight trains, he noted these impressions in his journal under the heading "Things I cannot photograph":

The warm darkness of the caboose
The constant throbbing of the train
Two men sitting in darkness of cupola looking out windows
The passing of signal lights
Lonely looking farmhouses
Isolated interlocking towers
The crazy moon in the sky with one lone star above it
The lazy rocking to and fro of the brake wheel on the car ahead of us
No wind.
The dark smoke in one long line
The smoke becomes silver-lined
A train is approaching us!
The glare of the headlight with a WOOSH of thunder it flies by us.
The brakeman gets down from the cupola and watches it go by
Two red lights and a white one pass us
The white one waves up and down.
We answer
Then back again to the drone
I throw a cigarette out of the window
It whirls off in the backwash scattering sparks wildly like fireworks
The blackness again.

N&W's wandering Y-3's

When a few roads ran short of power during the war, outdated compound 2-8-8-2's were a partial answer

BY **ED KING**

From the earliest days of railroading, each company logically used locomotives designed to satisfy its own operating requirements. All the early commercial locomotive builders carried catalogs from which customers could select the designs that best suited their requirements. There was considerable latitude for "customizing" the catalog designs to satisfy the pet requirements of the local Master Mechanics—the builders thrived by doing business in this manner.

Every railroad thought it had the best power for its own needs, and looked askance at any suggestion that "foreign" power might do a good job on its property. Individualism reigned.

Two world wars would put considerable stress on these ideas. World War I saw the railroads taken over by a federal agency, the United States Railroad Administration, with results typical of anything run by a government bureaucracy. USRA's only saving grace was the establishment of 12 standard locomotive designs to be built by all three major commercial builders. All 12 turned out to be excellent performers wherever they were used, and many continued to be duplicated long after the USRA had returned control of the railroads to their owners.

The USRA's largest standard locomotive was a compound 2-8-8-2 which was based on Norfolk & Western's class Y-2a Mallet of 1918. N&W became the largest customer for this locomotive, purchasing 45 from Alco's Schenectady Works and 5 from Baldwin in 1919. These were classed Y-3 on the N&W and numbered 2000-2049; N&W obtained 30 near-duplicates (class Y-3a) in 1923 and 10 more (class Y-4) in 1927.

The compound 2-8-8-2 was the ideal "slugger" for N&W's tonnage, grades, and curves, and the railway spared no effort in making the locomotive as efficient as it could be, continuing its development long after other roads had given up on compounding (steam from the throttle being expanded in the rear, or high-pressure, cylinders which exhausted it into the larger front, low-pressure cylinders). A significant step was made with the Y-4a (later Y-5) engines of 1930-32. Boiler pressures, tractive efforts, and horsepower were rising, and the Y-5's were built with a new low-restriction exhaust system (the "bridge pipe") for the low-pressure engine and a boiler pressure of 280 pounds, soon raised to 300.

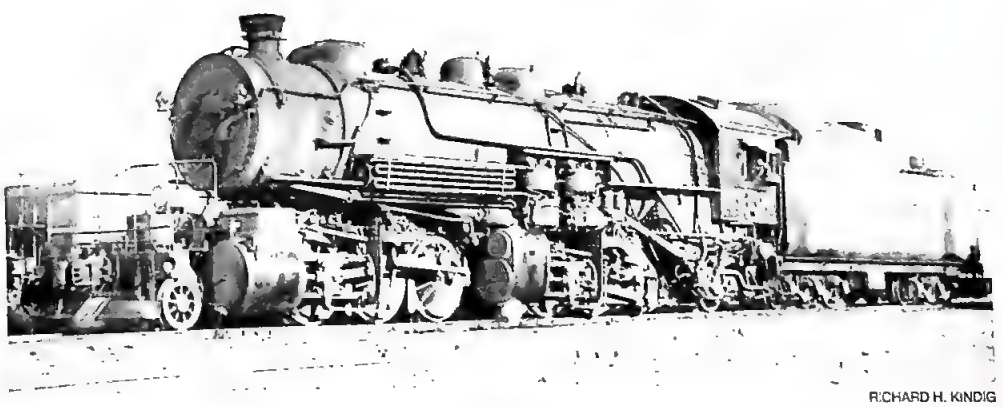
The older Y's were also jacked up to 270 pounds of boiler pressure, which yielded starting tractive effort ratings of 114,154 pounds compound, and 136,985 in simple operation for the USRA engines and their 1920's descendents. Thirty-five Y-6's and 10 class A 2-6-6-4's followed between 1936 and 1940, all with roller bearings and cast engine frames. This new freight power enabled some of the older Y-2a's and Y-3's to be stored during the Depression. N&W rebuilt the Y-5's with cast frames and roller bearings in 1940-41, and their bridge-pipe front engines were put under some of the Y-3's, Y-3a's, and Y-4's.

SECONDHAND ROSES

World War II would put a strain on America's railroads greater than that experienced during World War I. The first war was a European war, and the railroads in the western United States were spared many of the troubles those in the East experienced. But World War II was a "two-ocean war," and the western roads were quickly drawn into the fray. Like N&W, many carriers had placed significant numbers of locomotives in storage during the 1930's and by reactivating them were able to cope with the increased war traffic. However, some critical railroads, in the

RAIL PHOTO SERVICE RAYMOND E. TOBEY

HOME FRONT: N&W class Y-3 compound 2-8-8-2 Mallet 2017 lugs a 8,600-ton coal train at Elliston, Va., in a postwar photo.



RICHARD H. KINDIG

FIRST SALE: On September 1, 1947, four years after being acquired, Rio Grande 2-6-6-2 No. 3351, ex-Norfolk & Western Z-1a class No. 1457, reposed at Salt Lake City, Utah.

East as well as West, suddenly found themselves short of motive power. With new locomotive construction strictly regulated, these roads were forced to shop around for secondhand power.

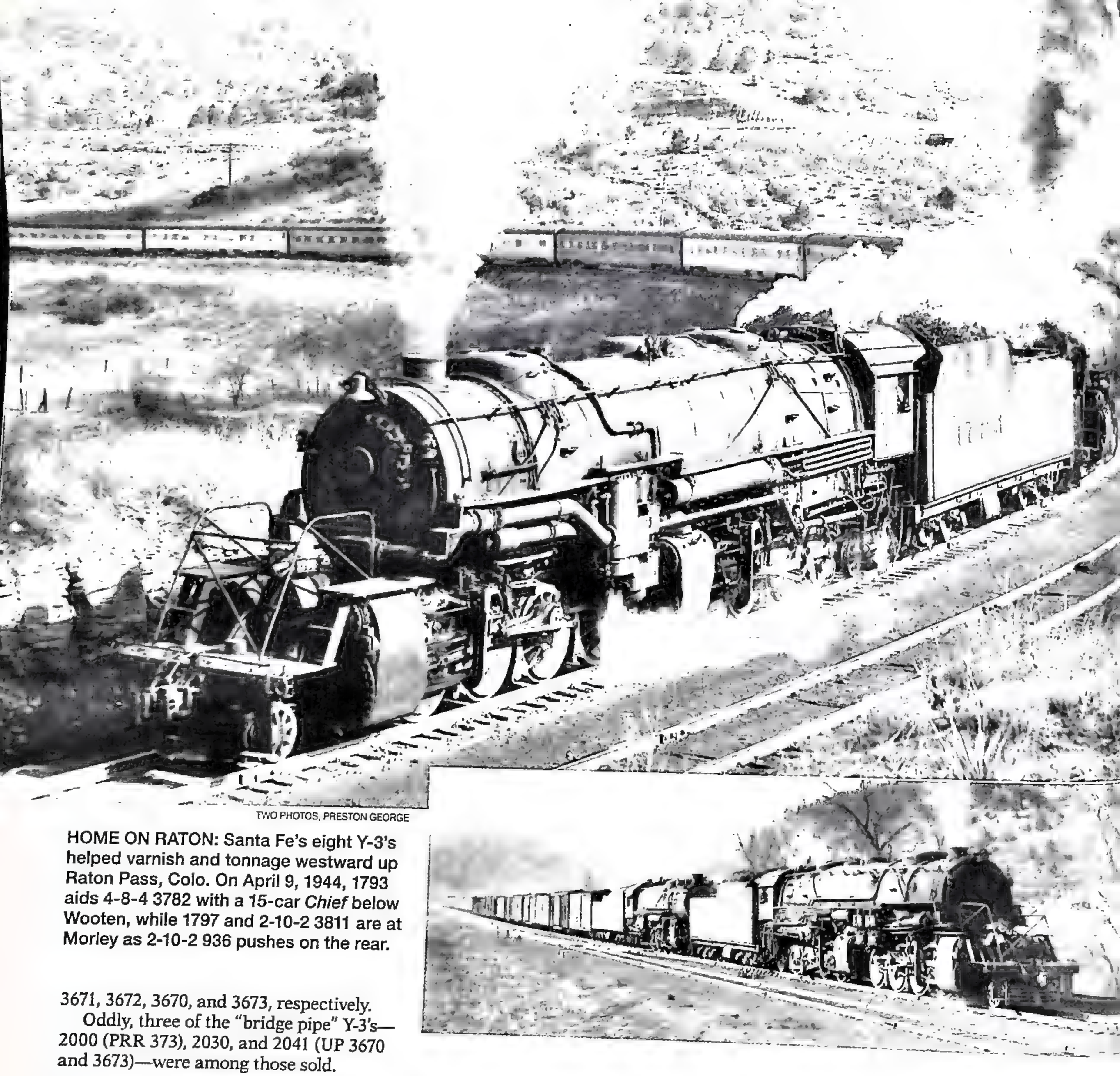
Norfolk & Western got into the used locomotive market as a vendor in December 1942, when it sold two 2-6-6-2's in class Z-1a to the power-starved Denver & Rio Grande Western. In 1943, N&W sold eight Y-2a 2-8-8-2's to the D&RGW and then two more Y-2a's to the Utah Copper Company for its Bingham & Garfield road-haul railroad. The latter two locomotives, which were used in slow-speed service, kept their N&W numbers as B&G 1721 and 1723.

N&W's new locomotive construction in 1942-43 (including 16 Y-6a's and 15 class A's—10 more A's were to come in 1944) rendered even more older locomotives surplus, so some of the Y-3's were made available for sale.

The mighty Pennsylvania Railroad was the first customer, purchasing Y-3's 2000, 2008, 2027, 2034, 2036, and 2046 in May 1943. Most, if not all, had N&W's 26-ton, 18,000-gallon tenders. Pennsy assigned them numbers 373-378 in numerical order, placed keystone number plates on the smokebox fronts and its standard oval builder's plates in place of the rectangular Alco and round Baldwin plates, and assigned them to its HH1 class.

Santa Fe was the next buyer, in October 1943, for eight, as N&W 2014, 2015, 2021, 2022, 2026, 2029, 2035, and 2042 became ATSF 1794, 1792, 1790, 1791, 1793, 1795, 1796, and 1797. Apparently they were renumbered in the order they arrived on Santa Fe property, not numerically. All had N&W's 23-ton, 16,000-gallon tenders.

Union Pacific waited until June 1945, the month after V-E Day, to purchase Y-3's, taking five. These also were not renumbered in order, as N&W 2013, 2020, 2025, 2030, and 2041 became Union Pacific 3674,



TWO PHOTOS, PRESTON GEORGE

HOME ON RATON: Santa Fe's eight Y-3's helped varnish and tonnage westward up Raton Pass, Colo. On April 9, 1944, 1793 aids 4-8-4 3782 with a 15-car *Chief* below Wooten, while 1797 and 2-10-2 3811 are at Morley as 2-10-2 936 pushes on the rear.

3671, 3672, 3670, and 3673, respectively.

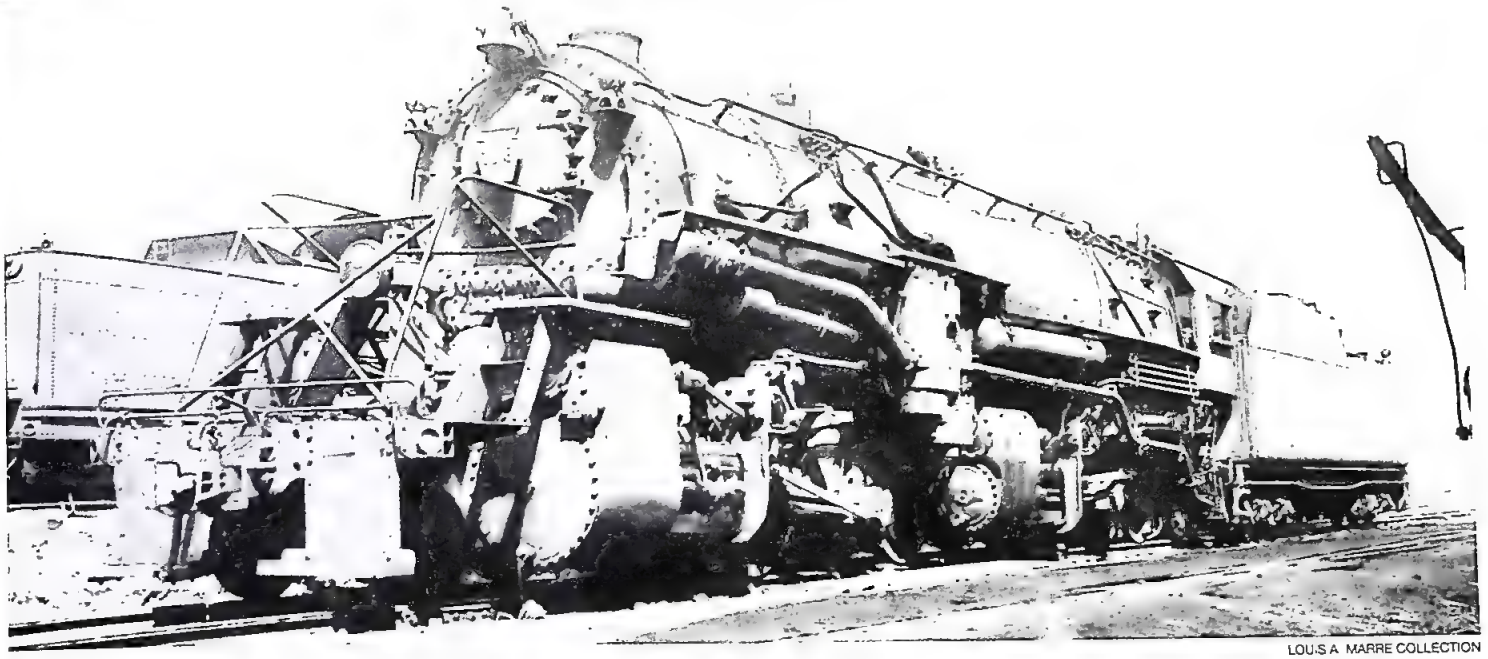
Oddly, three of the "bridge pipe" Y-3's—2000 (PRR 373), 2030, and 2041 (UP 3670 and 3673)—were among those sold.

SETTLING INTO NEW HOMES

The Pennsylvania used its HH1's in the yard at Enola, Pa., near Harrisburg, and occasionally worked them down to Hagerstown, Md. With the exception of PRR's single huge HC1s simple 2-8-8-0 of 1919, the former Y-3's had the most tractive effort of any steam locomotive PRR ever owned. Typical, though, was the disdainful reaction of one road engineer who was quoted as saying, "They were too slow. We got them off the road and into the yard and out of the way." Left unsaid was the rest of the sentiment: ". . . before the company could find out how much tonnage they could get over the road with." They all wound up working in yard and transfer service at Columbus, Ohio, where they could look from PRR's Grogan Yard over to N&W's Joyce Avenue facility and see their old N&W comrades-in-arms. Pennsy scrapped all six in 1948.

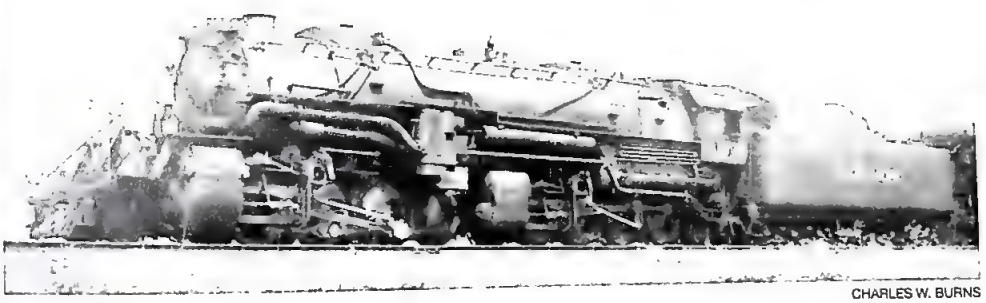
Santa Fe put its former Y-3's (its 1790 class) to work as helpers over Raton Pass between Trinidad, Colo., and Raton, N.Mex. They did a good job of helping up the mountain—they were even seen on the head end of Santa Fe's best passenger trains—but weren't quick enough getting back down to keep from slowing up the flow of traffic. They worked for only three of the five years they were on Santa Fe property. Seven of the eight were sold to the Virginian Railway in February 1948, but the 1797 was scrapped at Albuquerque after its low-pressure engine frame was broken in a collision.

Union Pacific received its five at Council Bluffs, Iowa, where they were placed in service and moved to Cheyenne, Wyo., for use as helpers on Sherman Hill. They quickly proved themselves too slow for service there and were sent to UP's subsidiary Oregon Short Line to work on the Butte (Mont.) line, where speed was not as important. They weren't acceptable there, either, so they all wound up working



LOUIS A. MARRE COLLECTION

FIRST Y-3 BUYER: Pennsylvania in May 1943 bought six Y-3's; keystone-plated 374, at Columbus, Ohio, in May 1945, is ex-N&W 2008.



CHARLES W. BURNS

THIRD IN LINE: Union Pacific 3672, ex-N&W 2025 and one of five Y-3's bought in June '45, was at Cheyenne, Wyo., later that year. They also worked on UP's Oregon Short Line.

around the Rock Springs (Wyo.) coal mines, where they did establish good reputations. At least one engineer on that assignment preferred them to Union Pacific's own 2-8-8-0's. All five were retired between July and December 1947, making them the shortest-lived of all the Y-3's. They were the last steam locomotives bought by UP, as its last 4-8-4's (Nos. 835-844) beat the Y-3's to the road by a month. The Y-3's were in what UP mechanical folks considered to be "pretty good shape" when they arrived, especially compared with the Chesapeake & Ohio H-7 simple articulated 2-8-8-2's UP had bought (also in 1945), most of which required major work before being put into service. Interestingly, the starting tractive effort of a UP Big Boy 4-8-8-4 was 135,375 pounds, just under that of a Y-3 in simple operation, 136,985 pounds.

Reactions of the purchasing railroads to the World War I-era compounds, even with the 270-pound boiler pressure, might have been expected. Both Santa Fe and Pennsy had turned up their noses at articulated power after unsuccessful early forays into unusual and, as it turned out, unfortunate designs. Union Pacific had Mallets of its own, but had converted most of them to simple engines, and every new articulated that "Uncle Pete" bought after 1936 was a high-wheeled simple machine. Even the Y-3's Baker valve gear was strange to all three buyers, which were "Walschaerts roads." The only other Baker-equipped engines on the UP were some 4600-series switchers; on the Santa Fe, the 2-8-4's it bought from the Boston & Maine, and on the Pennsy, the 2-10-4's it had to build to a C&O design during World War II and a handful of USRA 0-6-0 switchers it had gotten during World War I.

FOR SOME, AN EXTENDED LIFE

Most fortunate of the 19 Y-3's N&W sold during the war were the seven that the Santa Fe passed on to the Virginian Railway. VGN classed them USE and renumbered them in the order of their numbering on the Norfolk & Western.

These numbers, 735-742, followed those of 15 USB-class USRA-copy 2-8-8-2's, Nos. 721-735, that Virginian obtained new from Alco's Richmond Works in 1923. Interestingly, at 270 pounds, the ex-Y-3's had the highest boiler pressure of any Virginian locomotive, higher even than the five 2-8-4's and eight 2-6-6-6's the road bought new from Lima in 1945-46.

The USE's went to work in Virginian's non-electrified territory, operating west of Elmore, W.Va., into the coal country and east of Roanoke, Va., to the Sewell's Point coal piers at Norfolk. The first three were scrapped in August 1954, and the others followed in June 1955.

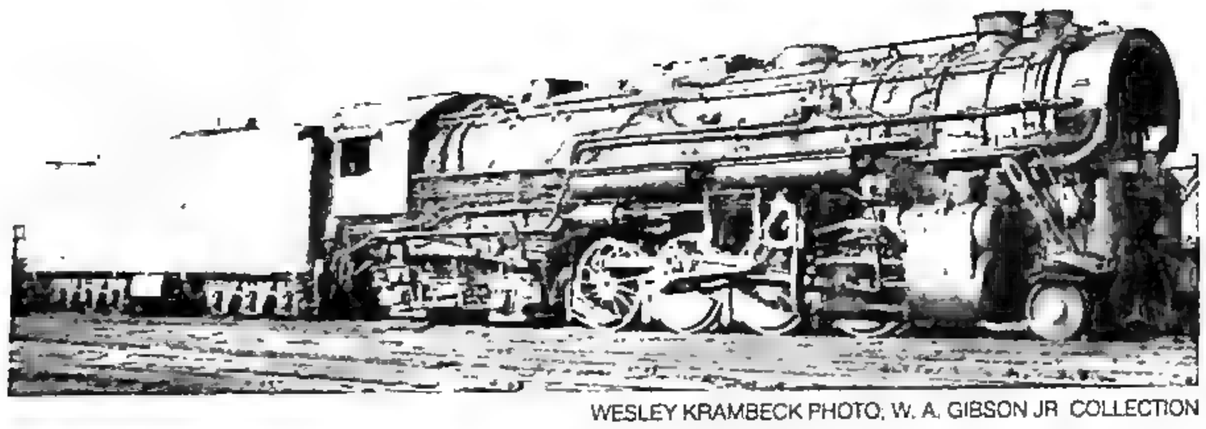
It's interesting to consider that the Santa Fe 1790's might not have been available to sell to the Virginian. Santa Fe did not like the speed of the 2-8-8-2's, but recognized that the boilers had great potential. Plans were drawn up to marry them to the running gears of Santa Fe's 3751-class 4-8-4's. The frames would have had to be lengthened between 12 and 18 inches to accommodate the boilers, which would have had the pressures raised to 300 pounds. But the sale to the Virginian seemed more sensible, so this interesting conversion never took place.

The Y-3's had been ideal locomotives on the N&W, and the USE's were ideal for the Virginian, too. But they hadn't been designed for the needs of the Pennsy, UP, or Santa Fe, so it isn't surprising that their destiny was only to serve as wartime stopgap measures until the need abated.

OTHER ROADS, OTHER ENGINES

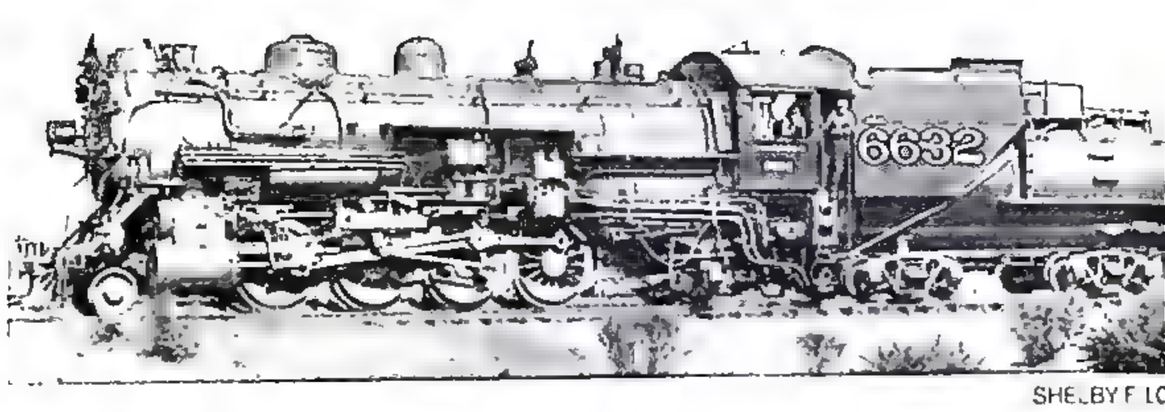
In general, secondhand locomotive purchases during the war other than N&W's Y-3's were more palatable to the buyers. Santa Fe bought seven 2-8-4's from the Bos-

HANDYMAN'S DREAM: UP found its 30 ex-C&O 2-8-8-2's needed major work; 3591 tackles Sherman Hill, Wyo., on September 2, 1946



WESLEY KRAMBECK PHOTO; W. A. GIBSON JR. COLLECTION

BERKSHIRES WEST: Santa Fe 4198, ex-B&M 4015 and one of seven, is at Argentine Yard in Kansas City, Kans., November 24, 1945.



LOOK SOUTH: Southern (AGS) 2-8-2 6632, formerly Erie 3072 series, is freshly rebuilt at Birmingham, Ala., in September 1944

RICHARD H. KINDIG

UNWANTED: Rio Grande 4-8-2 1552, at Helper, Utah, October 1, 1947, was one of four ex-N&W K-3 4-8-2's (No. 208) acquired in 1944 but found unsatisfactory and sold to W&LE.

ton & Maine, numbering them 4193-4199 (Santa Fe's own 2-8-4's, built by Baldwin in 1927, a year before Lima built the B&M's, were 4101-4115). Even though these were replicas of the original Lima A-1 Berkshire with 63-inch driving wheels and therefore nominally 35- to 40-mph machines, they were more suitable for service on Santa Fe than were the N&W Mallets.

Seaboard Air Line and Southern Railway each leased old 2-8-2's from the Chicago & North Western and used them in services where their own Mikados had been satisfactory, so the Midwesterners had no problems fitting in. Southern in 1940 bought seven 1911-vintage Mikados from the Erie and assigned them numbers in the Alabama Great Southern series and used them out of Birmingham, Ala., again alongside Southern's own Mikes. It is unlikely, though, that UP found its ex-C&O H-7 2-8-8-2's much more satisfactory than it did the N&W Y-3's; they may have been marginally faster, but not enough to satisfy Uncle Pete's need for speed.

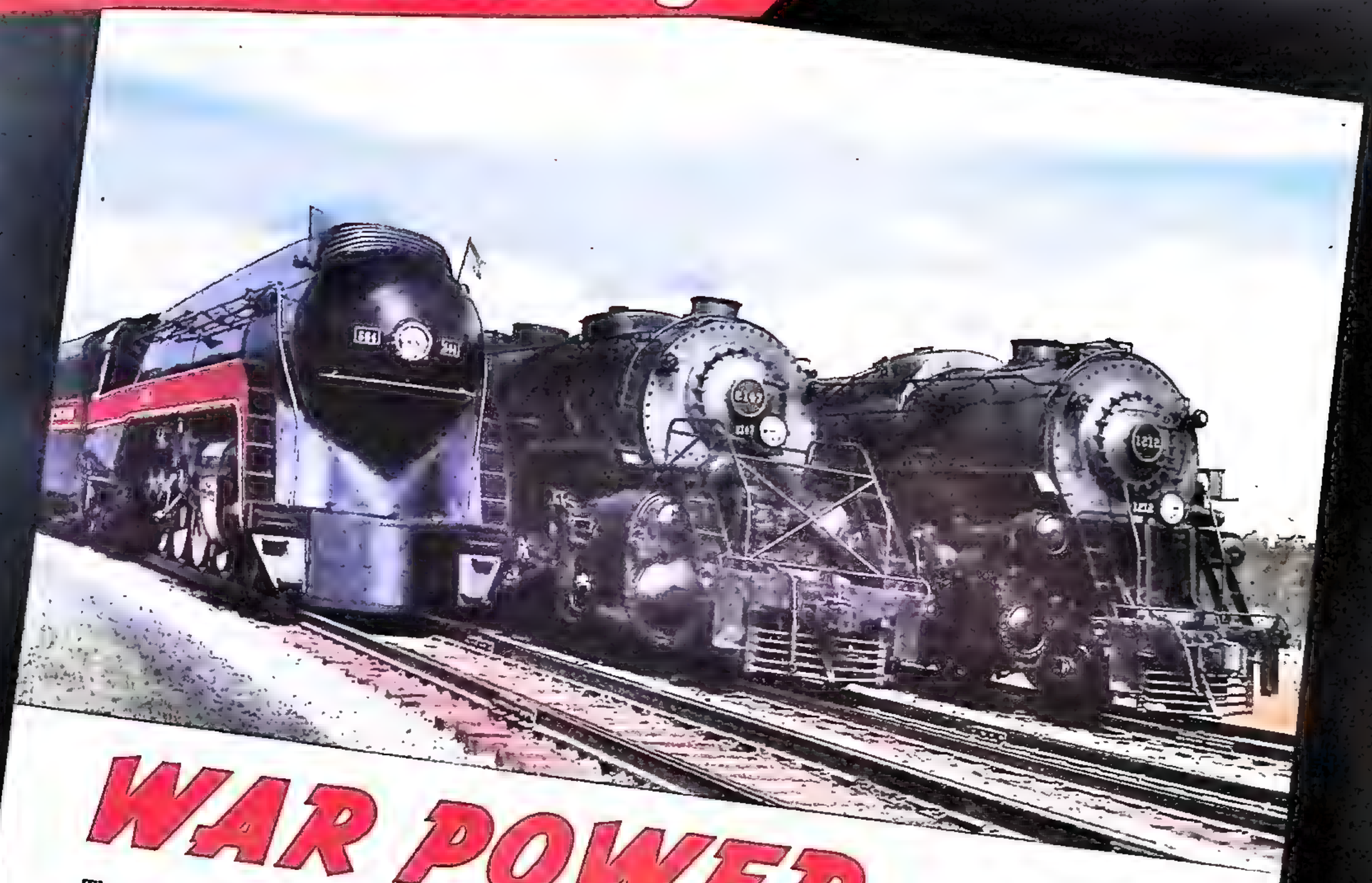
Another wartime N&W sale got mixed, if not outright unfavorable, reviews. The railway had built 10 very powerful (68,880 lbs. starting tractive effort) class K-3, 63-inch-drivered 4-8-2's in 1926 for fast freight service, but they turned out to be woefully under-counterweighted. They pounded the track badly at speeds above 35 mph or so, too low a speed to take advantage of a very potent boiler. In February 1944 N&W sol six to the Richmond, Fredericksburg & Potomac, which numbered them 515-520 (RF&P had four of its own 4-8-2's, Nos. 501-504). Their speed limitations made them as unsatisfactory on RF&P's fast main line as they had been on the N&W.

The other four K-3 4-8-2's went to the Rio Grande, which numbered them 1550 1553. (D&RGW had 40 of its own 4-8-2's, 10 of them three-cylinder engines.) They may have been less unsatisfactory in Rio Grande's mountains than they were on RF&P's double-track speedway. Both rai roads deemed the K-3's not worth keepin however, and sold all 10 of them in 1946 the Wheeling & Lake Erie, which used them in mine-run service in eastern Ohi

Decisions made out of desperation of do not lead to satisfactory solutions, and this was certainly true in many of the motive-power purchases made during World War II. But a pound of tractive effort is a pound of tractive effort, and if fills your desperate need, you take it whe you can get it. A Norfolk & Western 2-8- was a strange animal indeed to find on Raton Pass, Sherman Hill, or for that matter, anywhere west of the Mississippi River—and with good reason.

The seven Norfolk & Western Y-3's tha came back to the Appalachians to work the neighboring Virginian Railway, though, undoubtedly were happy to be home again. ■

★ Wartime Advertising ★

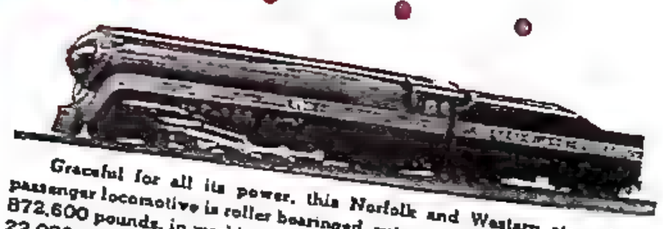


WAR POWER

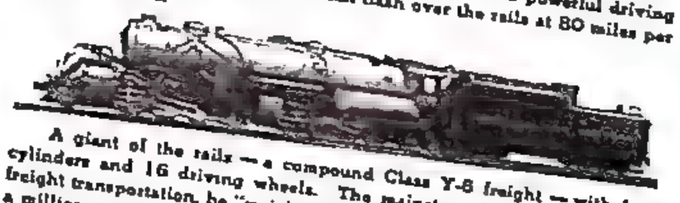
The might and power of our war transportation are the locomotives of America — locomotives that are moving one and one-third million tons of freight a mile every minute and one and one-half million fighting men a month.

Here are three modern powerhouses of concentrated energy in the Norfolk and Western's fleet of locomotives in the service of the nation. Symphonies of steel and power, they were designed and built by the brains, brawn and skill of Norfolk and Western employees in the railroad's shops (as have more than 100 others during recent years). In the front rank of the finest railroad motive power in the world, N. & W. locomotives are proving their mettle — their sound, modern design, careful construction and stamina under the unprecedented strain of wartime transportation.

Locomotives of America! Storied in history and song . . . trail blazers in the development of the nation . . . the vital arteries of transportation in times of peace . . . today, the might and power of war transportation.



Graceful for all its power, this Norfolk and Western streamlined passenger locomotive is roller bearinged, automatically lubricated, weighs 872,600 pounds, in working order, is 109 ft., 2 1/4 in. long, and carries 22,000 gallons of water and 26 tons of coal. With 8 powerful driving wheels 70 inches in diameter, it can flash over the rails at 80 miles per hour and more.



A giant of the rails — a compound Class Y-6 freight — with four cylinders and 16 driving wheels. The mainstay of heavy duty, mass freight transportation, he "weighs in" — with coal and water — at nearly a million pounds, is 114 ft., 10 1/2 inches long, roller bearinged, and automatically lubricated.

Into this long (120 ft. 7 1/2 in.) racy locomotive has been built power and speed. A combination freight and passenger, it takes on any tough job. It flashes over the rails with long passenger trains, or pulls with ease and dispatch a heavy merchandise freight train. This Class A weighs 931,600 pounds in working order, has twelve 70 inch driving wheels, roller bearings, and a fire box 122 square feet in size.

BUY MORE WAR BONDS

NORFOLK and WESTERN Railway

ONE OF AMERICA'S RAILROADS . . . ALL UNITED FOR VICTORY!

JEFF HAMPTON COLLECTION

Powerful locomotives were a natural subject for wartime ads. In June 1943, Norfolk & Western proudly called its home-grown J-class 4-8-4, Y-6 2-8-8-2, and A-class 2-6-6-4 "symphonies of steel and power . . . in the front rank of the finest railroad motive power in the world." N&W's claim has not been challenged since.

A woman's touch during wartime

Henrietta Hanson on the B&O

On board the trains, nurse-stewardesses were a comforting presence

BY **MICHAEL G. MATEJKA**

At a wartime station, soldiers on leave kissed their loved ones good-bye, while anxious eyes scanned the evening horizon. A distant headlight pierced the gloom, moving closer, and soon amidst low thunder was revealed a blue-and-gray streamliner with BALTIMORE AND OHIO lettered in gold on its flanks. As the long line of coaches and Pullmans rumbled by, the conductor cracked a trap door and tossed down a stepbox.

A second train crewmember joined him on the platform. Outfitted in her navy blue uniform, B&O nurse-stewardess Henrietta Hanson assisted the conductor in greeting passengers, keeping her eyes open for the infirm, elderly, or those traveling with small children. The trained nurse gave children an especially warm greeting, helping them ascend the steps and find a comfortable spot on the crowded train.

That was the World War II routine for Henrietta, a railroader's daughter who found an exciting and stimulating career on the rails. Nurse-stewardesses were a late-1930's innovation that several railroads developed, a comforting presence that was as new to the rails as the shiny streamliners. During 1942-46, Henrietta was a friendly face on B&O's crack passenger trains.

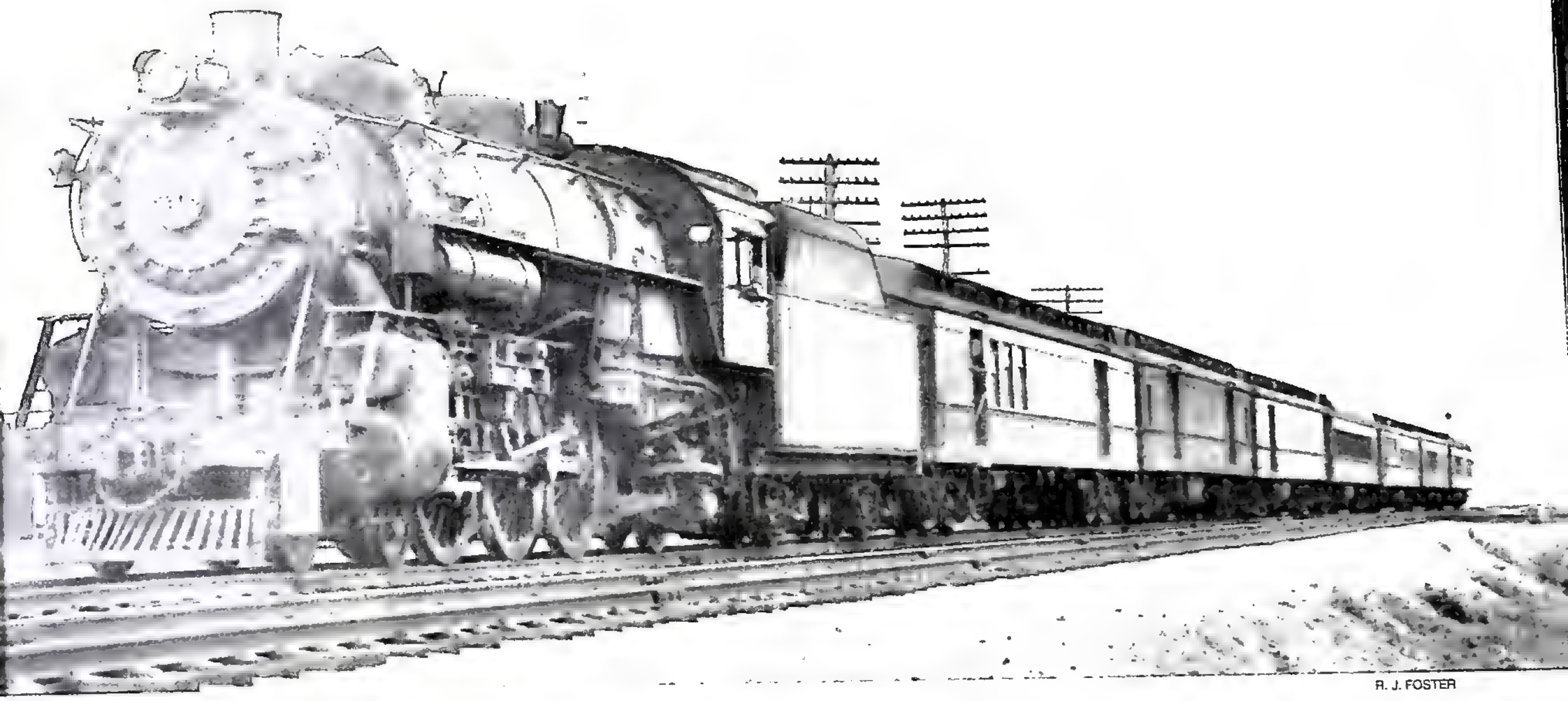
Henrietta was born in 1919 in Michigan, and her family moved to Bloomington, Ill., when she was 3. Her dad, John Hanson, worked for the Chicago & Alton, which in the 1920's employed more than 3,000 people there, more than half of them in the C&A's big locomotive and car shops.

Henrietta's love of the rails developed early, as she followed her father around the shops. Part of his daily routine was to lead a crew to the depot to meet the passenger trains, where they checked the cars' journal boxes and filled the locomotive tenders with water. Henrietta remembers joining her dad at the Bloomington station at least once a week, waiting in the small shanty the crews used, watching her dad and his fellow workers perform their servicing chores on the *Alton Limited* and other Chicago-St. Louis speedsters.

After graduating from Holy Trinity High School, Henrietta entered a nurse-training program at St. Joseph's Hospital in Bloomington. In 1941, while en route to Chicago on the Alton to

TWO PHOTOS, MICHAEL G. MAT

Henrietta Henson, who had to change only one vowel in her maiden name of Hanson in 1946 when she married Jack, holds photo of herself in her B&O uniform at her Illinois home in 200



R. J. FOSTER

Baltimore & Ohio's *Diplomat*, one of the two New York-St. Louis trains Henrietta regularly worked, nears East St. Louis, Ill., in 1948.

obtain her nurse's license, she met a young woman working as a railroad nurse-stewardess. A possible career dawned for Henrietta. She decided to apply for a similar job.

With competition from the automobiles, bus lines, and the emerging airlines, the railroads were bringing innovations to their passenger services in the late 1930's. New air-conditioned, streamlined trains were replacing older rolling stock, and some railroads, like the B&O, experimented with women on their train staff, just like the new airlines. (B&O entered the picture at Bloomington in 1931, taking over the bankrupt Chicago & Alton and formally renaming it for its universal nickname: Alton Railroad; B&O owned the Chicago-St. Louis-Kansas City carrier until 1945.)

In early 1942, Henrietta made a trip to Grand Central Station in Chicago, where she interviewed with the B&O. In June she made her first student trips from St. Louis Union Station on the *Diplomat* to New York, a 24-hour trip each way. Those two student trips were her total training.

The *Diplomat* and *National Limited* were the B&O's two premier New York-St. Louis trains and soon became Henrietta's regular runs. She would report an hour before train time, greeting boarding passengers alongside the conductor at each stop. She would note those with medical needs, the elderly, and families with small children." I watched out for the children, colored with them, and tried to give the parents a break," she says. Once the train departed, she would follow the ticket-collecting conductor down the aisle, familiarizing herself with the passengers and any with special needs. She helped parents store baby bottles and warmed them at the appropriate time. If there was motion sickness or a minor malady, she counseled treatment; if there was a serious medical emergency, she tended to the passenger until the next stop, where a doctor was called.

HENRIETTA HENSON COLLECTION

Henrietta models her uniform in 1942 at the St. Louis apartment she shared with colleagues.

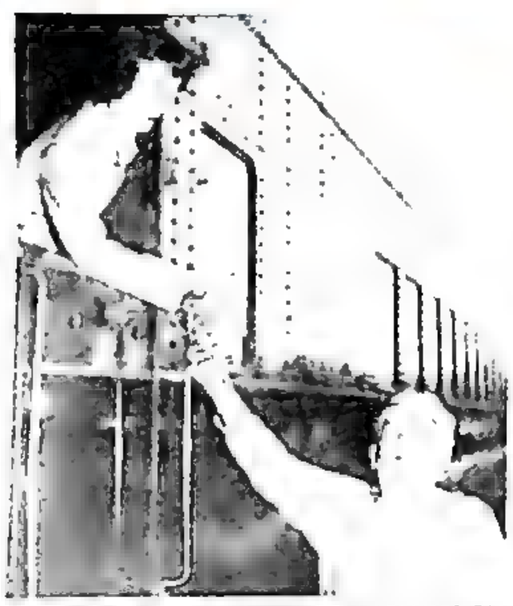
For the next 24 hours the train was her rolling home. During the night she stayed in an open Pullman berth, or a compartment if one was available. Trains and travel had special thrill for her. "It was so special at Washington Union Station, to see all those beautiful trains and their different colors in the morning light."

In New York she had 24 hours before her return journey, which gave her a chance to check out the city's nightlife and play tourist. Later her on-train time was shortened and she left the train at Washington, returning on the next day's trip. She had one and one-half days off per month and was paid $200 monthly. She and her sister nurses shared an apartment in St. Louis and roomed in downtown New York or D.C. hotels during their layovers, quite a change for a railroader's daughter from Bloomington, Ill.

She remembers that the nurse-stewardesses had sharp, tailored uniforms, gray in the summer and blue in winter. Since there was a wartime nurses' shortage, when off-duty she often worked at St. Louis-area hospitals and as an on-call nurse.

Henrietta's railroad years were during the height of World War II. Because of gas and rubber rationing, everything possible moved on the rails, and passenger trains were long and crowded. She comforted many servicemen after painful good-byes and shared the joys of those returning. Her saddest tale was helping a young sailor with an infant, taking the child back to his family in Texas. The sailor's wife had deserted him and left the baby behind. Henrietta not only took care of the child, but also brought the baby to sleep with her in the berth, so the sailor could relax.

★ On the Alton, "A dime for the girls" ★



HENRIETTA HENSON COLLECTION

John Hanson meets the southbound *Ann Rutledge*.

Although Henrietta's father, John Hanson, stayed in Bloomington, servicing Chicago & Alton passenger trains at the depot, his daughter was never far from his heart while she traveled for the B&O. Watching over the Alton Route's hostesses, Hanson became known to the women as the "Dime Man."

Around 1943, Henrietta complained to her father about how difficult it was, once the train tied up in St. Louis, for the women to find the proper change and pay their 10-cent carfare home on the St. Louis Public Service trolleys. To ensure that no young woman would have to walk, Hanson began "hooping up" a dime every morning to the hostess working the Alton's *Ann Rutledge* en route from Chicago to St. Louis, as the mid-1940's photo from the *Bloomington Pantagraph* newspaper, at left, illustrates.

"Right then I decided I'd make sure the girls had the correct carfare," he told the *Pantagraph* in 1946, "so I started passing up the hoop with the dime in it." Hanson would wrap the dime in a newspaper scrap and then attach it to a train-order hoop. As he checked journal boxes and helped service the train, he'd look for the hostess in the vestibule and "hoop up" the coin.

The *Pantagraph* reported that Hanson was known as "the little man with the big smile—and the correct change for carfare." According to the paper, "Regular travelers and hostesses alike, look forward to seeing him as the train passes through the Bloomington station. The Alton's hostesses always know that they can depend on Hanson with his friendly smile holding up the hoop."—*Michael G. Matejka*

Overcrowded trains with passengers sitting on suitcases or soldiers on duffel bags were common. One Christmas Eve, Henrietta worked a train so crowded that there were 200 passengers in each 84-seat coach, some travelers crammed in the vestibules, aisles, and restrooms.

"What can we do?" she remembers the conductor declaring. "Everyone wants to get home for Christmas."

The B&O kept a tight conduct code for the young women, who were not to date passengers even though friendly offers were common. The train crews were "like family," she says, with the Pullman porters and conductors ensuring the women were always safe. She developed a warm rapport with her fellow railroaders, and more than 60 years later she can still identify them by name when she sees their photographs. "Those train people worked so hard on those crowded trains—conductors, porters, dining car, everyone," she says.

Because of wartime fears of Axis spies, the train crews were not to share information on train movements or give any information on the numerous troop trains or freights they passed en route. If a passenger asked about a train on another track, they were to report the individual and simply answer that the equipment was being deadheaded to another point.

Inter-service rivalries were also touchy, and Henrietta used her nursing skills after more than one club-car fight, as "Who is doing more for the war effort?" arguments among sailors, soldiers, and Marines often took a nasty turn. Eventually the B&O began putting railroad detectives on the trains, one of whom Henrietta wound up marrying.

R. J. FOSTER

B&O's *National Limited*, another regular run for Henrietta, leaves East St. Louis in 1948 with Pacific 5208 assisting E6 diesel 52.

B&O hosted its share of celebrities, and Henrietta had the opportunity to serve future First Lady Mamie Eisenhower, en route from Washington back to the Eisenhower farm in Kansas. More than once the Truman clan—Harry, his wife Bess, and daughter Margaret—rode the B&O as far west as St. Louis going to and from Independence, Mo., outside Kansas City on routes of the Missouri Pacific and the Alton. Although then-Vice President Truman could have had a private car, that wasn't his style—he traveled in a regular Pullman with his Secret Service agents, eating in the dining car with other passengers. Henrietta remembers the future president as, "A wonderful man, easy to talk to. He made me feel at ease. He wanted to be with the people."

She was in Washington in April 1945, reporting for another westbound trip on the *National Limited*, when news of President Franklin D. Roosevelt's death swept the terminal. "You could have heard a pin drop in that massive building," she remembers. "Everyone was so touched and grieving."

It was in June 1946 when she met her future husband, John ("Jack") Henson, a B&O special agent, on the train, and the following October she made her last trip as a B&O employee. When they married, she had to change only one letter in her name, going from Hanson to Henson.

Before the wedding, though, she had a decision to make. Norma Thompson, chief stewardess for the Santa Fe, had offered Henrietta a job. She would be based in Chicago, working the *Chief*, *Super Chief*, and other Santa Fe name trains. She mulled the decision for more than a month before deciding that marriage and home life was her choice.

She and John settled in Chillicothe, Ohio, a division point where he worked for over 30 years as a B&O police officer before they retired to Florida. After his death in 1993, she went back home to Bloomington, where her son lives and where today she's delighted to find old friends from her youth.

"I loved the railroad," she emphasizes. "Going through the mountains, it was just something, and there were all those stories from the old railroaders. And I don't think there's anything like a steam locomotive—they were like giant, steaming monsters."

Henrietta and her colleagues can be proud of adding the woman's touch to many passenger trains during the difficult years of World War II. ■

★ Wartime Advertising ★

Women at Work for a Railroad at War

America needs millions of women to take over war jobs . . . to stay with those jobs . . . to help speed the day when our fighting men will return victorious!

Santa Fe women are answering this call all along the line.

Right now thousands of Santa Fe women are doing war-vital work to "keep 'em rolling." Many of them are pitching into "unglamorous" jobs . . . greasing engines, operating turntables, wielding a shovel, cleaning roller bearings, working in blacksmith and sheet metal shops. They take pride in their work, too!

Many of them have husbands, sweethearts, brothers or sons in the armed forces. Many came to work to replace a relative who had been called into service. Others took jobs because they knew womanpower must step in when manpower goes to war.

☆ We of the Santa Fe salute these women who know that what they are doing is vital to Victory!

"Back the Attack with War Bonds"

SANTA FE SYSTEM LINES

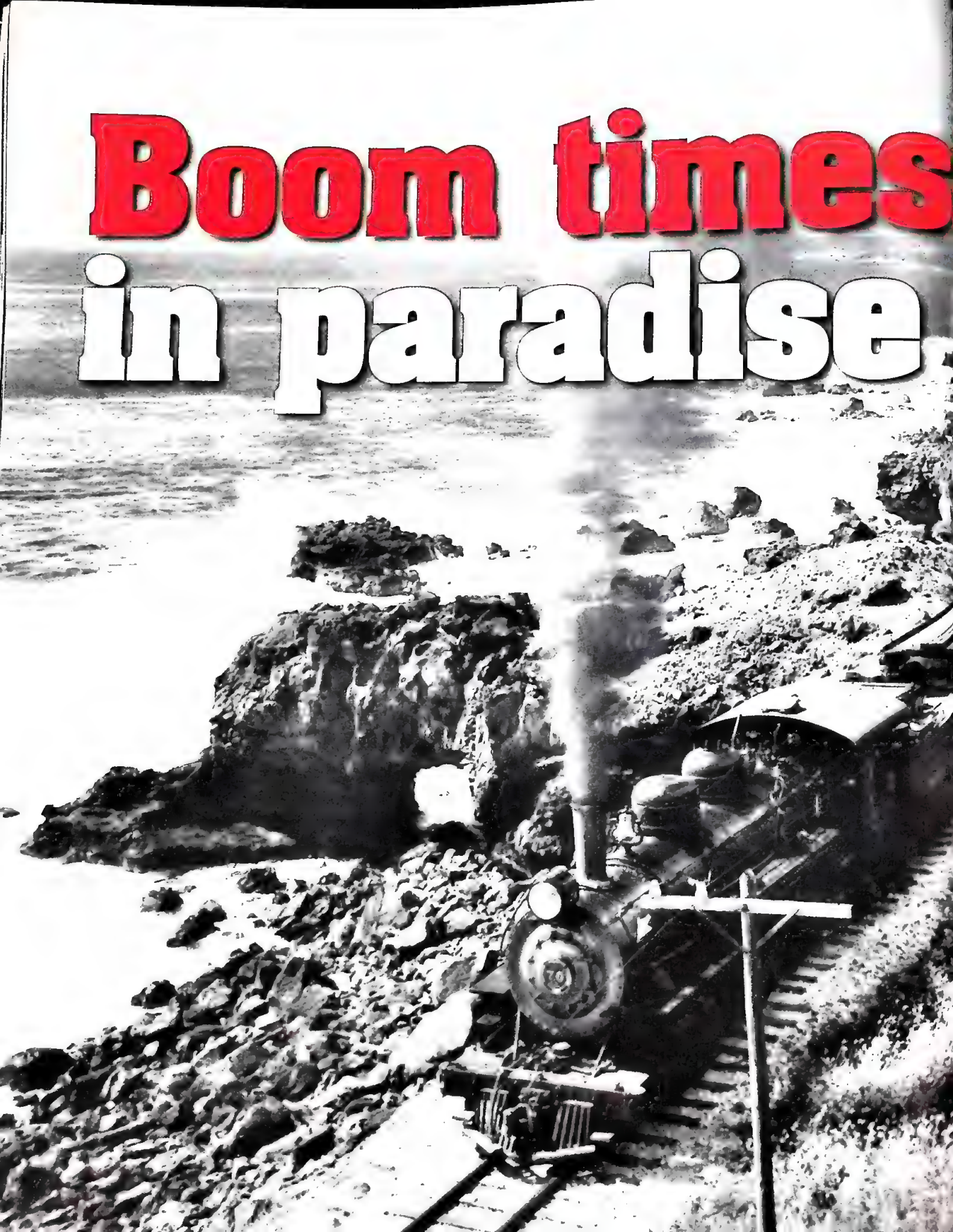
Serving the Southwest and California

ONE OF AMERICA'S RAILROADS—ALL UNITED FOR VICTORY

MICHAEL K. ROGERS COLLECTION

The railroads hired thousands of women during the war to fill jobs normally held by men. In this Santa Fe ad, the copy below the picture of fresh-faced gals notes that most of the women's jobs were "unglamorous," a point underscored by the location of the only man in the scene: the locomotive cab.

Boom times in paradise



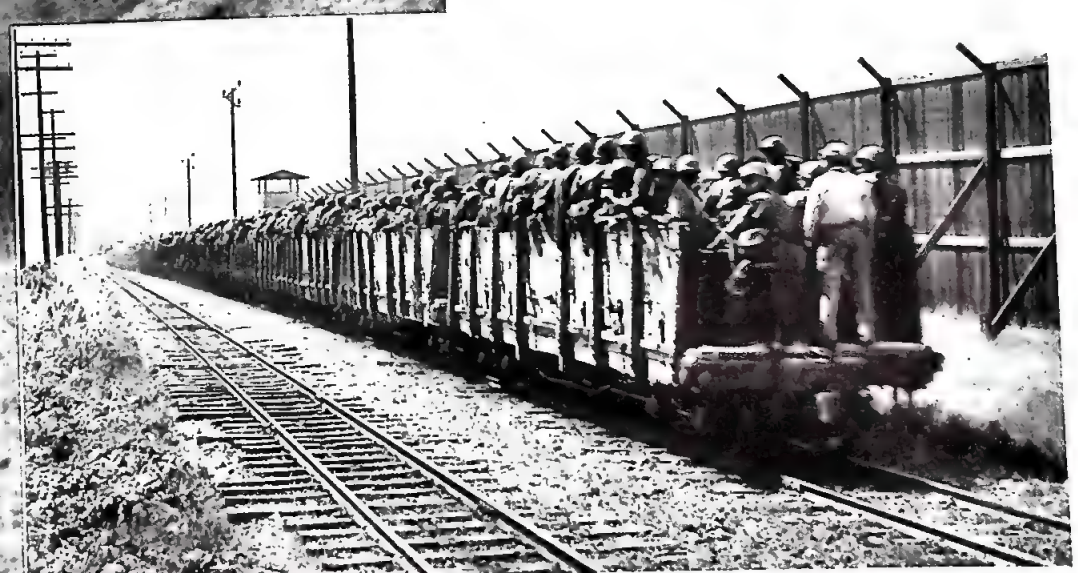
Hawaii's narrow-gauge Oahu Railway bustled with war traffic after the Japanese attack on Pearl Harbor

BY **ROBERT A. RAMSAY**
PHOTOS BY **KENT W. COCHRANE**

It was early summer 1944. I had just turned 11 and was living with my parents on Oahu, the third largest and the most populous of the Hawaiian Islands. The Honolulu blackout, imposed when the war began, was newly lifted. One day, just out of curiosity, I decided to take a leisurely trip down to the Oahu Railway passenger station in the Iwilei section of the city.

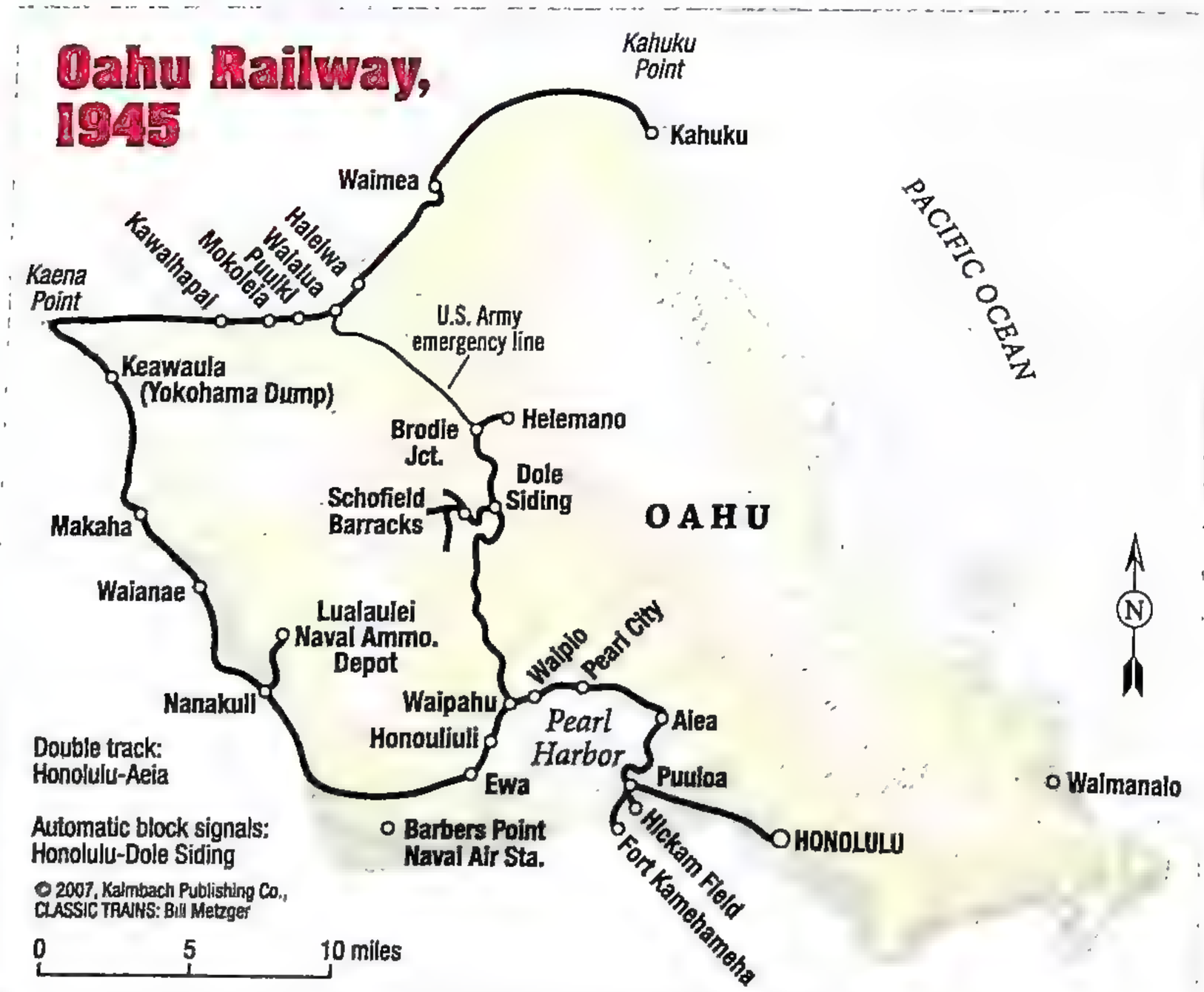
Although the station was open, no trains were scheduled for the middle of this day. The platforms looked inviting, and within a short time I had wandered a few hundred feet more into the yard and as far as the roundhouse. Here was some action: Locomotives taking fuel and water, a switcher passing with empty freight cars, and several engines wheezing as they sat in their stalls.

Thus began my experience with an unusual railroad, the three-foot-gauge Oahu Railway & Land Co. The war in the Pacific was in full swing, and the railroad was being used far more intensively than ever before. Passenger traffic was heavy, with commuter trains carrying war workers to and from the navy yard at Pearl Harbor, and troop movements between the harbor area and various Army, Marine Corps, and



Engine 70 (left), one of the Oahu Railway's four big 2-8-2's, has rounded Kaena Point and is passing Arch Rock with the Kahuku freight. Troops in battle gear (above) are crowded aboard 30 gondolas leaving Honolulu; the civilian standing on the rear is the train conductor.

Ten-Wheeler 85 makes a smoky departu
from Honolulu with a train for Barbers
Point. The handsome 1910 Alco survives
disassembled, at the Lahaina Kaanapali
tourist railroad on the island of Maui.



The Oahu Railway & Land Co.'s main line reached from Honolulu around the coast to the plantation village of Kahuku, 71 miles. Major branches went to Watertown (later extended to Fort Kamehameha) and Wahiawa (between Dole Siding and Brodie Junction).

Army Air Corps posts and camps all over the island. Long freight trains carrying agricultural products and military goods made their way over the OR&L's main lin At this stage, the quaint railroad was actually bringing in enough revenue ($1 million or more annually) to be classified as a Class 1 carrier.

However, these unprecedented boom times soon came to an abrupt end, and ju over two years after the war ended, nearl the entire 83-mile railroad was abandone

PLANTATION ORIGINS

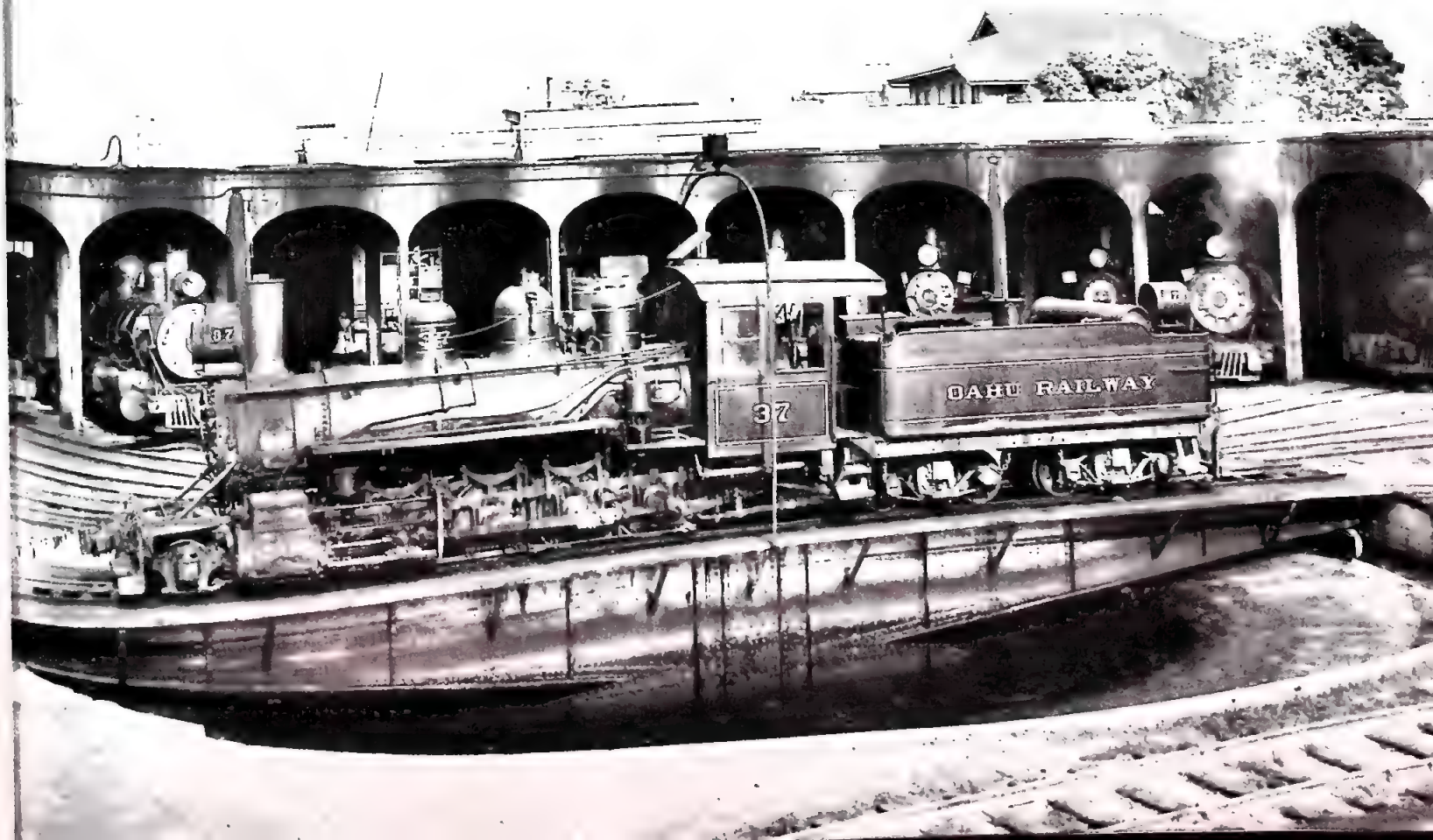
The Oahu Railway began in 1889 as a means to connect a new sugar plantation at Ewa with Honolulu Harbor in what wa then the Kingdom of Hawaii. The railroa was developed by the promoter of the plantation, Benjamin F. Dillingham, who in the following decades developed other plantations, both on Oahu and on the "bi island" of Hawaii. By the beginning of th 20th century, Hawaii had become a U.S. territory and the OR&L reached along th coast to the small plantation village of Kahuku, situated on the north shore of th

island, 71 rail miles but a mere 26 air miles from Honolulu. Eventually there were seven sugar and two pineapple plantations on the island, all but one directly served by the railroad. Moreover, each sugar plantation had its own railroad.

When the U.S. Navy established its coaling station and then navy yard at Pearl Harbor after 1900, the OR&L was called upon to help. A project to dredge the harbor entrance for large ships included the establishment of Watertown, a village to house workers, and the railroad built a short branch to serve the project through what became Hickam Field. By 1913, the Navy had constructed dry docks and other repair facilities, as well as fuel and ammunition storage depots, all served by the OR&L or the Navy's own railway.

In 1906 the Oahu Railway built an 11-mile branch from Waipahu up the hill to Wahiawa on the central plain of the island.

Diesel No. 15 (right) is ready to depart the Honolulu terminal with a Pearl Harbor extra; right behind the GE are motor cars M-1 and M-2. A few hundred feet away, 2-8-0 No. 37 rides the turntable at the 15-stall roundhouse which, like the station, still stands.



Action at Waipahu: A doubleheaded pine-
apple train (above) bound for Honolulu
curves off the Wahiawa Branch and past
the depot, water tanks, signals, and an ol
enginehouse. Ten-Wheeler 85 (left) on a
train from Barbers Point meets 2-8-0 98
taking sailors to the Nanakuli rest camp.

This branch served new pineapple fields, the Army's Schofield Barracks, and, later, the Air Corps' Wheeler Field. During and after World War I, the Army developed large-scale coast artillery fortifications which were in part served by the railroad. A few large rail-mounted artillery guns were added to bolster coastal defense in World War II.

OR&L's earliest locomotives were small tank engines and 4-4-0's. When these proved inadequate, the road ordered heavier locomotives from Baldwin, all wit outside frames, in wheel arrangements 0-6-0, 2-8-0, and 4-6-0. After the turn of

In a postwar elimination of a dangerous grade crossing, the cut at Waipo was enlarged. Despite appearances as 4-6-0 88 hauls a Barbers Point eastbound, the line remained single-track and 3-foot-gauge.

the 20th century, the Oahu Railway became the island representative for the American Locomotive Co., so subsequent locomotives (0-6-0's, 2-8-0's, 4-6-0's, and 2-8-2's) were from that builder. The only exceptions were two three-truck Shays built by Lima in 1920 and '21 for the steep Wahiawa Branch; deemed too slow, both Shays were out of service by 1940.

PROSPERITY AND PROFIT

With little highway and no rail competition, the OR&L prospered and became a major element in Oahu's economy. Between 1908 and 1916 it acquired many new locomotives and cars and installed automatic block signals on its double-track Honolulu-Waipahu main line. During the 1920's the railroad built a modern roundhouse and engine terminal and a combined passenger station/general office building in Honolulu. The OR&L also developed and operated much of the Honolulu Harbor freight facilities. U.S. firms Hawaiian Pineapple Co. (Dole); California Packing Corporation (Del Monte); and Libby, McNeil & Libby built pineapple canneries near the harbor. The road's last new steam power, four Mikados patterned after Denver & Rio Grande Western's K-28's, arrived in 1925-26.

During the Great Depression the railroad's passenger business, which had never been heavy and, since the 1920's, depended substantially on visiting tourists, dropped off to almost nothing. Four wood-bodied gas-mechanical motor cars, built in the OR&L's own shops, handled most of the remaining service in the 1930's, although standard, locomotive-hauled cars saw duty on specials. About 14 of the road's 63 passenger cars had their seats removed and boxcar-style doors added to carry tin cans from the can plant to the canneries. At age 4, I had my first train ride aboard car M-2 on a 1937 adventure extending all the way to Haleiwa, 58 miles from Honolulu. Later the M-3 and M-4 were demotorized and used during the war as trailers; the M-1 and M-2 were rarely used.

Freight traffic held up well through the 1930's, thanks to steady demand on the mainland for the island's agricultural products. Military traffic picked up, starting with the building of the Army Air Corps' Hickam Field in 1935. The Watertown branch, and its extension to Fort Kameharneha, carried materials for the new airfield and a coastal artillery post. Traffic to the Pearl Harbor navy yard increased too. By 1940, with Japan on the march elsewhere in the Pacific, additional naval and military construction, including the establishment of the naval magazine at Lualualei, brought more traffic.

On the steep Wahiawa Branch, Consolidations 32 and 34 heave 6 cars of their 12-car train of trap rock up the hill to Dole Siding.

After the Pearl Harbor attack, Walter F. Dillingham, president of the Oahu Railway & Land Co. and son of the road's founder, offered the entire railroad to the Army and Navy for defense purposes—all other considerations were pushed aside. Old freight and passenger cars were quickly refurbished for immediate and extensive duty. The "can cars" were quickly reconverted to passenger coaches, but with long benches inside rather than coach seats; they kept their boxcar doors. Passenger coaches carried shipyard workers and generally served the several military installations between Honolulu and Ewa, including the new naval air station at Barbers Point. Troops as units were usually transported in open gondolas. Servicemen on leave also made heavy use of the railroad.

By December 1941, some of the older locomotives had been out of service for some time. They were quickly inspected and made ready for war service, and began to operate 24 hours a day, seven days a

A freight from Kahuku (above) has just rounded Kaena Point, revealing what was considered the most beautiful vista on the OR&L. At Ewa (left), engine 32 holds the main with a Kahuku freight to meet 4-6-0 No. 98 on a sailors' train from Nanakuli.

week. Because the entire island was under a blackout, all locomotives had their headlights painted over, with a small blue light shining through the middle of each lens.

The Oahu Railway was fortunate in suffering no major damage during the December 7 attack. The double track (cut back to Aiea before the war) and block signals helped keep the traffic flowing. Telephone dispatching and train orders and clearance forms were used throughout, with each of the stations along the line having operator/agents. As backup in case the coast-hugging main line was put out of commission for any reason, during October-December 1941 the Army built an emergency line that

The weekly pay train waits for orders at the island's rubbish dump, called "Yokohama" after December 7; behind 4-6-0 88 are coach 7 and observation-parlor car 64.

connected Brodie Junction on the Wahiawa Branch with Waialua on the main line along the island's north shore.

Beginning in 1942, both the Army and the Navy added to the freight-car pool with cars of their own, the largest group being contributed by the Navy. By war's end, the Navy had some 500 cars, which were eventually stored at Pearl Harbor before being sold off. The Navy also received diesel-electric locomotives, most of which were kept within naval installations, but some showed up in OR&L's yard at Honolulu Harbor for switching duties.

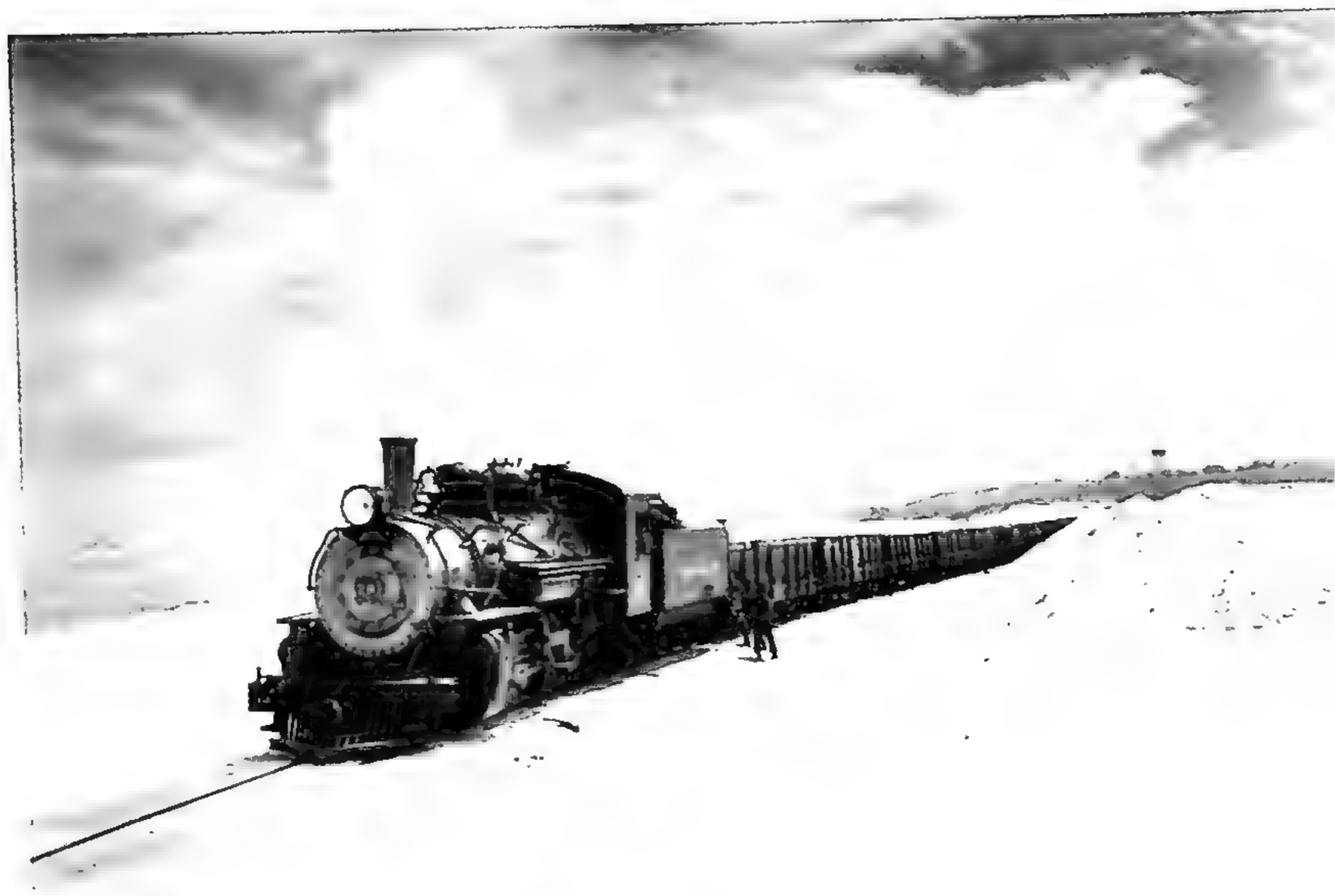
At the end of May 1942, the aircraft carrier USS *Yorktown* came into the navy yard for emergency repairs. The ship was needed to meet the Japanese fleet then sailing toward Midway, and time was limited. To load ammunition for the ship, the railroad made up a special train at Lualualei and cleared the main line of all traffic. The ammunition train proceeded all the way to Pearl Harbor. This was the only time during the war that munitions were loaded aboard a warship inside the navy yard proper, rather than at West Lock, on the west side of the harbor area and far from other facilities. A few days later the *Yorktown* played the major role in the U.S. victory at the Battle of Midway.

In 1942 an ungainly 4-6-0 from the former Pacific Coast Railway at San Luis Obispo, Calif., joined the OR&L roster, but it was unpopular with engine crews. The road's final motive-power acquisitions were 47-ton center-cab diesels Nos. 15 and 19, built by General Electric in October 1943. The GE's worked both as switchers and road engines.

The war years were indeed boom times for the Oahu Railway. In 1940 the railroad carried 193,000 passengers, but the total for 1943 was 2.5 million, a 13-fold increase!

WARTIME BOOM, POSTWAR BUST

When the war ended in August 1945, the Oahu Railway was in very worn condition. A tsunami heavily damaged portions of the main line in April 1946, and although the track was rebuilt, and other improvements made, the island's agriculture was turning to trucking and the government freight and passenger business had fallen off to a trickle. All the steam locomotives were simply worn out, most needing new boilers, and the cost of dieselization was considered to be excessive in the face of predicted revenues. Thus in 1946 the decision was made to abandon the main line by the end of 1947 and scrap the railroad, leaving only



End of the line: At Kahuku, farthest point from Honolulu on the OR&L, Mikado 70 is at the sand pit with a string of gondolas.

a small terminal operation in the harbor area of Honolulu. Abandonment occurred on December 31, 1947, with a ceremonial last passenger special running from Kahuku to Honolulu.

The terminal operation lasted for another 23 years, until August 1971, when the last cannery closed. The remaining 3 miles of track were quickly taken up, the flat cars sold for scrap, and diesels 15 and 19 sold to interests on the American mainland (they survive on Colorado tourist lines). The Navy kept its 15 or so miles until the end of the battleship era, when the need for hauling ammunition for the big guns ceased. Part of the Navy trackage was turned over to the State of Hawaii and then leased to the Hawaiian Railway Society, which today operates about 6 miles west from Ewa for tourists and railfans. ■

Read about how to model the Oahu Railway in *Model Railroad Planning 2008*, on sale Jan. 22. To order, call 800-533-6644.

Miracle workers: Headed back to the Southwest for another load, empty tank cars rumble across the Erie Railroad's Delaware River bridge at Mill Rift, Pa.

ERIE RAILROAD

Black gold by the trainload

When U-boats menaced coastal oil shipments, the railroads faced a tank car ordeal

BY **DAVID JONES**

They hauled as many as 1,107,029 barrels of oil a day during World War II to 13 eastern states and the District of Columbia—the hard way. They fought themselves, winters, rust, and paralyzing floods. They were prized by oil-poor New England, the Navy, the Army, the railroads, and the government, but were worked at a "grinding pace." One railroad set out 4,262 of them for repairs in just one month! They were the mainstay of ships in convoys that bore oil to war zones abroad—the oil the U.S. Army termed essential to the operation of transportation equipment including Jeeps, tanks, trucks, and bombers. Yet 90 percent of them were 20 or 30 years old—or more—and all they got was "patchwork" repairs and maintenance.

They were the American railroads' oil tank cars, and they had a tremendous ordeal.

That ordeal began along the U.S. Atlantic coast when recreation and guile mixed. The recreation went on at seaside resorts, "from Maine to Miami," recalled a Navy submarine chaser sadly. The guile was German, and arrived in U-boat submarines soon after Pearl Harbor.

In what one critic called "the quest for pleasure . . . almost grim in its intensity," the ocean resorts did not observe nighttime black-outs for the first six months of World War II. "Squawks went up," wrote the Navy's official historian angrily, that the "tourist season would be ruined." Protests arose "from Atlantic City to southern Florida."

Havoc ensued. On January 12, 1942, Nazi U-boats reached America, and their periscopes found ships silhouetted like ducks in a shooting gallery. At Miami, six miles of neon glared on the sea each night, and on cargo ships and oil tankers steaming by. From the sea, each ship was beautifully backlit. The U-boats fired.

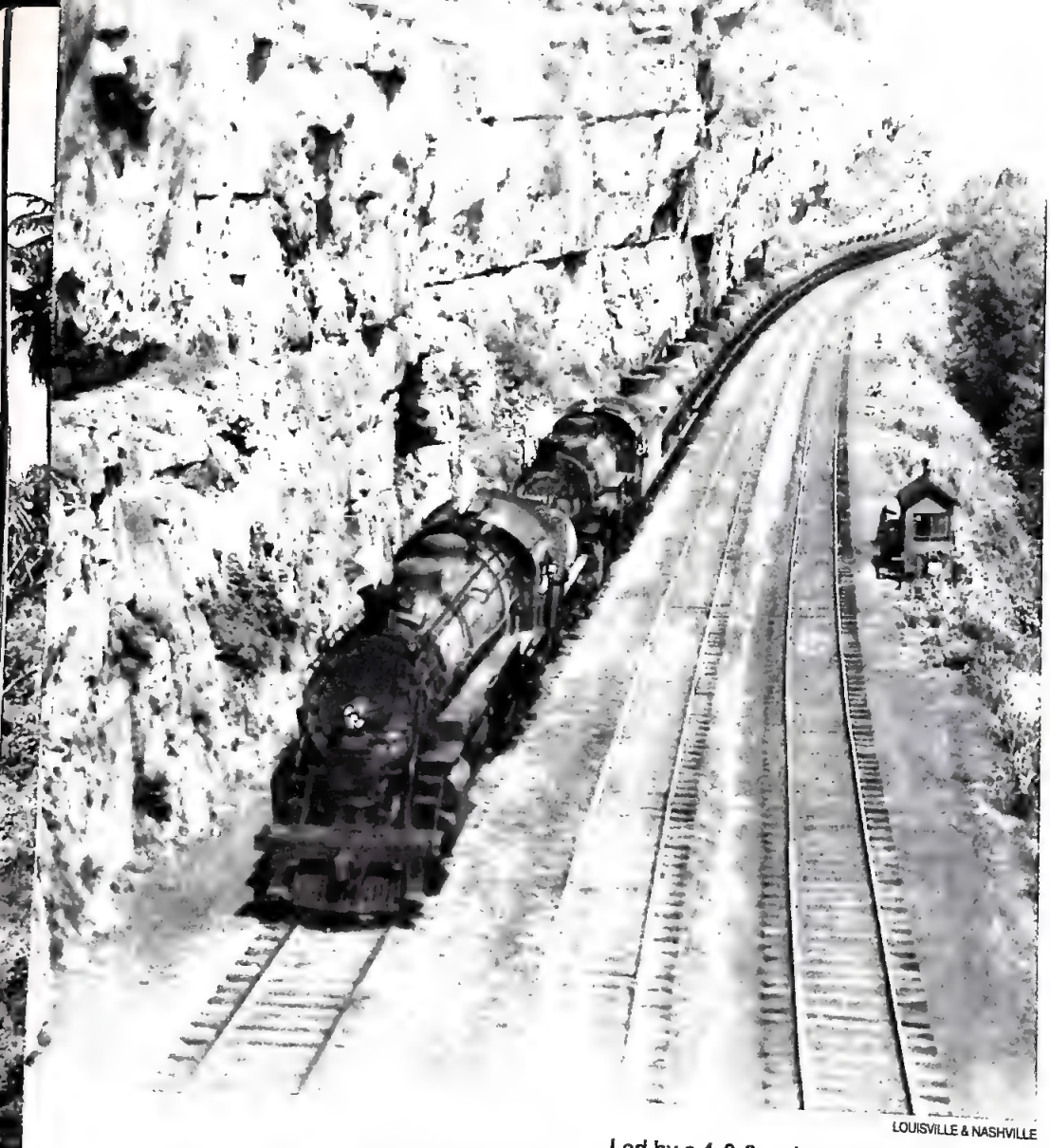
Samuel Eliot Morison, writing for the Navy, mourned the loss of 95,000 gross tons of ships, 70 percent of which were oil tankers, sunk "in a little over two weeks." Each tanker equaled 210 railroad tank cars of the day. More sinkings followed. The Navy was shocked, disorganized, ineffective; U-boat crews called this "the happy time." Morison called it a "massacre . . . as much a national disaster as if saboteurs had destroyed half a dozen of our biggest war plants."

Black-outs were finally imposed on May 18, 1942, but tanker captains who hadn't yet been sunk, and their underwriters, balked. So "in 1942 and 1943," Chester Wardlow wrote for the Army, "most oil tank ships were withdrawn from the coastwise water routes; the burden of this traffic fell largely on the rail routes." That burden was borne by the Army's own 4,100 or so tank cars and the 67,000 others that would move oil.

Oil was the blood of war. Hitler declared, "To fight, we must have oil for the machine." Said Stalin, "The war was decided by engines and octane." American oil was critical. No less than 53 percent of the fuel consumed by Spitfires and Hurricanes in winning the Battle of Britain began as American crude. It reached Liverpool and Glasgow in Allied ships that took on American oil at Atlantic coast ports.

During the heart of the war, they did not load oil from coastal tankers or pipelines. The pipeline system, built prior to World War I, was far too small. Railroads were the only answer. Tank cars therefore converged on the producing fields of Louisiana, Oklahoma, and east Texas. Dozens of railroads cooperated to hurry oil east and northeast at up to 50 mph. Not too fast, though—they could slosh. In Stuart Leuthner's book *The Railroaders* (Random House, 1983), engineer William Tout recalled when the cars ". . . weren't fully loaded, they'd get to slopping back and forth and you could feel your whole train moving back and forth."

From Texas City, Texas, near Houston,



LOUISVILLE & NASHVILLE

Led by a 4-6-2 and a 2-8-2, an Atlanta-bound Nashville, Chattanooga & St. Louis oil train curves around the foot of Chattanooga's Lookout Mountain in June 1942.

the most flamboyant "oil train route" took Santa Fe, Grand Trunk Western, Canadian National, Central Vermont, and Boston & Maine to Boston. *Railway Age* clocked this 2,531-mile route at 120½ hours, a 21-mph average. This was but one route employed to deliver not only oil for battle but 60 percent of U.S. East Coast petroleum needs in 1942, and almost 70 percent in 1943.

Demand in the European Theater rose as the Allies bombed Germany, supplied troops in North Africa, and prepared for D-Day. The Pennsylvania, New Haven, Baltimore & Ohio, Lehigh Valley, and Erie masterminded distribution to the sea. They were fed by lesser lines, which themselves boomed. Pere Marquette, for example, a roundabout railroad through Michigan, moved 57.6 percent more oil in 1943 than it did in 1942.

Bunched and rushed in symbol freights, with vain attempts at security—train crews were not supposed to know the ultimate destination of their freight—tank cars did an incredible job. Neither wicked winters nor brutal Mississippi River floods slowed them for long. Strictly speaking, this was thanks to railroaders who worked an average 49.3 hours per week. The equipment, though, worked flat out. "Eastward trainloads of tank cars," D. Thomas Curtin remembered in 1946, "behind straining locomotives and snowplows, carried the oil over the mountains to the sea, to Norfolk, New York, Boston, Philadelphia. . . . The Office of Defense Transportation referred to the 'railroad miracle.'"

Moving the oil was even more miraculous given other burdens on railroads: troop movements of up to 2 million men a month, with impedimenta, and more than 14,350 active steam locomotives 21 or more years old. A bigger burden: the draft and outside competition, which siphoned off 115,876 railroaders. Overworked employees, aged and under-maintained motive power, and a shortage of experienced labor taxed the railroads.

A further burden was the tank cars. New York Central locomotive engineer Paul Cannehl recalled, "A lot of cars that were stored came out of mothballs, and we had a lot of trouble with them . . . rusty pipes, rust getting into the brakes. They didn't have time to repair engines the way they should have, or the cars. . . . We'd get engines whose flues weren't clean, so they didn't give you the steam you needed."

Tank cars also suffered from rationing what one railroad supply officer termed the "drought" of steel, which was diverted in bulk to manufacture ships and army tanks. New locomotives, or tank cars, were almost impossible to obtain. Said another rail supply officer, "Steel bars, bronze bearings, coil springs, welding rod tools, and forgings in 1943 were acutely scarce." Remarked another, in 1942, "So much worn equipment must now be repaired indefinitely." A fourth supply man was more blunt: "They are running the wheels off the supply of equipment."

During 1943, *Railway Age* reported "more than 640,000 tank car set-outs for repairs." The situation did not improve with time. A 1945 observer noted grimly "the acuteness of the tank car situation," and another 1945 critic judged that the tank car fleet hung together only because of "an almost complete disregard of the costs involved in keeping [them] in service by patchwork repairs and maintenance."

Tank cars were not alone, of course, as the war strained the railroads on many fronts. On average, a U.S. freight car in wartime was in the shop once every 60 days. This dark side of the "miracle" had consequences afterward—the railroads met peace exhausted, not fully ready to compete.

In view of the fleet's condition, it's probably fortunate that demand for tank cars began to decline. New, large pipelines began to supply the East in 1943. Tank trucks—the bane of locomotive engineers at grade crossings—extended their network. With the U-boats beaten back, coastal tanker ships returned in force in 1945. Indeed, after July 1943, the numbers of oil tank cars declined sharply, and by the end of the war the railroads had less oil traffic than at the beginning. The tank car ordeal finished almost with a whimper.

But in yellowing histories, tattering journals, and the minds of those still alive who were there, the long strings of tank cars extending to the horizon remain vivid: an extraordinary part of those feverish years. ■

★ Wartime Advertising ★

ANOTHER FLEET FOR

Defense

50 powerful new locomotives already "launched" by New York Central —15 more on the "ways". 40 double-duty giants for fast passenger and freight service and 25 for heavy, high-speed freight trains —each a rail "fortress" for home defense.

The rapid movement of goods and materials is one of the most vital elements of our national defense. New York Central has been preparing for the vastly increased tempo of transportation for many months.

This could have been done with existing equipment—but not without some curtailment of regular service to the public. New York Central chose to maintain full service, day in and day out—so that you would suffer no inconvenience or interruption, even while this huge job of defense transportation is carried on.

That is why New York Central takes such pride in the "launching" of a great new defense fleet—65 giant locomotives, each a half a city block long, weighing 380 tons, and developing 4,100 horsepower.

No flag-waving, no champagne-christening accompanied this significant addition to our national strength. But we think you will share our feeling of pride in the power our country can develop when the need arises . . . At the same time we are glad to assure you that—as usual—you can *depend* on New York Central for your regular travel and shipping needs. These 65 new locomotives are only one step in this railroad's never-ending improvements for better service to you and to the nation's welfare.

NEW YORK CENTRAL SYSTEM

NEW YORK CENTRAL

MICHAEL ZEGA COLLECTION

For many months before December 7, 1941, German and Japanese aggression against other nations fostered defense awareness in the U.S. This July 1941 ad featured a lineup of NYC 4-8-2 Mohawks; note how the artist has exaggerated the size of the engines relative to the men.

Soldiers and sailors line up for snacks and coffee on the platform of PRR's Dennsion, Ohio, depot. The canteen occupied station space that formerly housed a restaurant.

DENNISON RAILROAD DEPOT MUSEUM

A slice of home and a cup of joe

In small towns like Dennison, Ohio, canteens in railroad stations lifted the spirits of traveling servicemen

BY **PETER A. HANSEN**

It's been called the Good War, a uniquely American turn of phrase that might have sounded ridiculous coming from any other people in any other conflict. It's not that Americans didn't suffer, but they suffered less than most. And they had the satisfaction of knowing that they—and often they alone—could fight the good fight around the world in democracy's darkest hour.

But the war was also waged at home. The railroaders knew it. Defense workers knew it. And so did the women of Dennison, Ohio; North Platte, Nebr.; and dozens of other small communities nationwide. In most cases, nobody asked them, but on their own initiative, and often with their own scarce rations, they organized trackside canteens for the soldiers and sailors traveling through.

Much of what was good about World War II happened on those small-town station platforms.

TRUE GRIT

Dennison was like a lot of small towns in Depression America, only more so. The hard times arrived early—a Pennsylvania Railroad shop that once employed 2,100 saw its ranks cut by half in the wake of a 1922 shopmen's strike. About the same time, modern steam locomotives—mostly K4s Pacifics and M1 Mountain types—began running through Dennison, halfway between Pittsburgh and Columbus, without a change of power. So, employment fell again. By 1929, just 350 area workers drew their pay from the Pennsy.

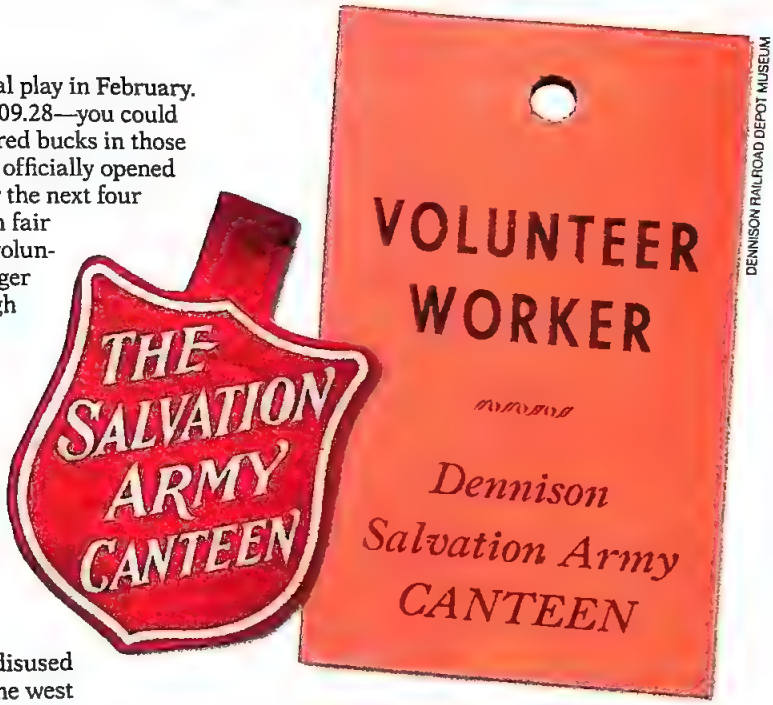
The war also arrived early here, when the son of the town's doctor was killed aboard the USS *Arizona* at Pearl Harbor. From that day through the middle of 1946, a steady drumbeat of trains reminded this little town that it was part of a much bigger world.

Dennison was a gritty place back then—literally and figuratively. A busy main line between Pittsburgh and St. Louis (PRR's Panhandle Division in these parts), a 16-track yard, and what was left of the roundhouse provided a steady supply of cinders and grime—it shows in the old pictures. But the pictures also show a town of simply dressed people, accustomed to hard work. The Depression hadn't beaten them, and World War II wouldn't, either.

So maybe it's not surprising that 31-year old Lucille Nussdorfer got an idea on New Year's Eve 1941. As small-town people were wont to do in those days, she wandered down to the depot. A troop train came through and made its seven-minute water stop, and Lucille waved to the GI's on board.

That's when she started thinking about a canteen. She talked to some area women, and they got a union local to donate the proceeds of their annual play in February. The program netted $209.28—you could do a lot with two hundred bucks in those days—and the canteen officially opened on March 21, 1942. For the next four years, day and night, in fair weather and foul, the volunteers met every passenger train that came through Dennison.

The Pennsylvania helped, too. The canteen began operating in the Justice of the Peace's office, and then moved to a gas station, but by May it became clear that no other location would do except the depot. The railroad agreed to donate the disused restaurant space on the west end of the building, and the canteen operated there from that time on.



DENNISON RAILROAD DEPOT MUSEUM

Felt badges and cardstock tags identified the workers who volunteered at the Dennison Salvation Army depot canteen.

"WHAT'S A BLOCK OPERATOR?"

Jane Steele laughs when she recalls her first days with the railroad. She had been managing McCaw's Drug Store in 1944 and got to know a group of young women who came to the soda fountain from time to time. They were PRR coach cleaners who worked in Pittsburgh, 90 miles east, and Jane thought she'd like to have that job, too.

"They'd go there every night, they'd see the big bands in the Seventh Avenue Hotel, and then they'd work and come home. That sounded pretty good, and they were making more than I was, so I put in my application. The railroad called me up and said there weren't any coach-cleaner jobs, but they did have an opening for a block operator. And I said, 'What's a block operator?'"

Jane found out, and spent 36 years with Pennsy, Penn Central, and Conrail. She can still rattle off the names of the Panhandle Division towers between Pittsburgh and Newark, Ohio: "Mingo, Broadacre, Uhrichsville, Newcomerstown, Morgan Run, Trinway . . ."

As the operator at Uhrichsville, adjacent to Dennison on the west, she controlled her share of Dennison's 41 daily train movements, a number that rose as high as 80 during the war. Everything was done by timetable and train orders, so operators like Steele were crucial.

The canteen changed her operating routine a little. "Conductors on westbound trains would call from Steubenville and say they had so many soldier boys—100 or 150—and when the train got close, I would call the canteen and tell them how many soldiers we had on train 67 [the New York-St. Louis *American*], or whatever." On eastbound trains, the conductors would call from Coshocton.

Sometimes the men would wander off and explore the local attractions beyond the depot, the kind of diversions most railroad towns had, including a dive called the Top Hat Club.

"A lot of times, whenever the soldiers would get off, they'd go to the tavern and stay a little too long, and then I'd have to stop the train," Steele recalls. In one incident, she got a call from a crossing watchman, saying there was a sailor hanging on the outside of a passenger car. Quick action on her part got the train to stop; she heard nothing about any disciplinary consequences to the sailor.

PRR cooperated in other ways, too . . . both official and unofficial. According to Mary Chalfant Hunt, who served as the canteen's bookkeeper and whose father was a PRR employee, crews would sometimes extend their water stop by a minute or two in order to make sure all the boys got served at the canteen. These were judgment calls, based on traffic volume, train weight, and the kind of power on the head end—still mostly K4s and M1 types.

Hunt's father, Linton "Spot" Chalfant, was a vice president on the canteen's board, representing the railroad. "Anything they needed, he did for them," Hunt says. "He got them their first refrigerator, got donations from the railroad, things like that." Asked if the PRR and its people were generally cooperative, Hunt emphatically answers, "Yes!"

Jane Steele hired out in 1944 as a block operator at the Uhrichsville interlocking tower; from there, she'd advise the Dennison canteen about approaching troop trains.

TWO PHOTOS, DENNISON RAILROAD DEPOT MUSEUM

Come and get it! Solders run down the platform beside P70 coaches toward Dennison volunteers bearing treats. Other men were less fortunate, being confined to their trains.

EVERYBODY DID THEIR BIT

The canteen was a significant undertaking for a town of 4,500, and it couldn't have worked without the Pennsy's help. But just as important, the canteen also sought and received support from railroad passengers (a donation box was set up on the platform), local merchants, the Salvation Army, and from 3,987 volunteers across an eight-county area.

Right from the start, Lucille Nussdorfer knew the canteen would require a skilled administrative hand. She approached several organizations, and the Salvation Army agreed to take it on. Adjutant Elizabeth Brooks ran the canteen for most of the war, and she's credited with bringing order to the volunteers' efforts. Hunt was Brooks' only paid employee, and she recalls the 40-ish Brooks as "a feisty little lady. I really liked her."

It was Brooks who enlisted the support of surrounding towns, and she also drew up a schedule, assigning days to each town so Dennison people wouldn't carry the burden alone. Each town worked out its own supply chain. In Stillwater, for example, food donations were dropped at the post office and taken to Dennison by volunteers. In Dover, the Women's Auxiliary of the VFW took care of the logistics.

Barb Bennett Maurer, who was in her early teens at the time, recalls that some of the towns were "30 or 40 miles away. Smithfield and Adena, they'd leave their homes at three in the morning to get here at seven or eight, and then after eight hours at the depot, they'd be into the night getting home."

Distance wasn't the only hardship. Sugar, coffee, and a variety of foodstuffs were strictly rationed, and so were gasoline and rubber. Volunteers would go to their townspeople, seeking donations of ration coupons or the goods themselves. It was sometimes hard to get donations, "except when you told them what you wanted it for," recalls Anna Melich Rufenacht. It might be a single ration stamp here or a half-cup of sugar there, but "add them all up from an eight-county area," Maurer remembers, "and it was pretty substantial, or at least enough." She adds, "We always made cookies for the canteen first, before

For four years, day and night, in fair weather and foul, volunteers met every passenger train through Dennison.

★ Serving the servicemen ★

Three groups established canteens. Most were community volunteer organizations at small-town depots who met all trains with baskets of food and beverages. Red Cross chapters also established several canteens. The United Service Organization (USO) mainly operated lounges in larger stations, but ran a few trackside canteens. Food was free to servicemen at community and Red Cross canteens, while several USO lounges and canteens charged. All told, there were some 125 lounges and canteens across America, but it was the four dozen or so volunteer-run, station-platform canteens that stand out in national memory—and in the memories of the servicemen they served.

The first World War II-era canteen opened in Neodesha, Kans., in 1940. Most shut down by the end of 1946, although the last survivor, in Lima, Ohio (supported in part by the local locomotive works), didn't close until September 12, 1970! The famous one at North Platte, Nebr., served the most troops. Ohio, laced with main lines of the big eastern trunk roads, led the nation with 12 canteens; Margaret Clingerman, daughter of the NYC master mechanic at Bellefontaine, had a role in founding 8 of them.

Volunteers greeted troops with warm welcomes, baskets of food, and other treats. Canteen fare included sandwiches, desserts, beverages, magazines, newspapers, and sundry items—all donated by area residents. An almost universal food was bologna salad. There was actually a surplus of eggs during the war, and they were used for mayonnaise and as sandwich filler. Rationed foods like sugar, butter, and coffee were sacrificed in homes, to be used at the canteens. Some canteens were known for their specialties: popcorn balls at McCook, Nebr.; spaghetti at Evansville, Ind.; bags of popcorn and apples at Marion, Ohio; and pheasant sandwiches at Aberdeen, S.Dak.

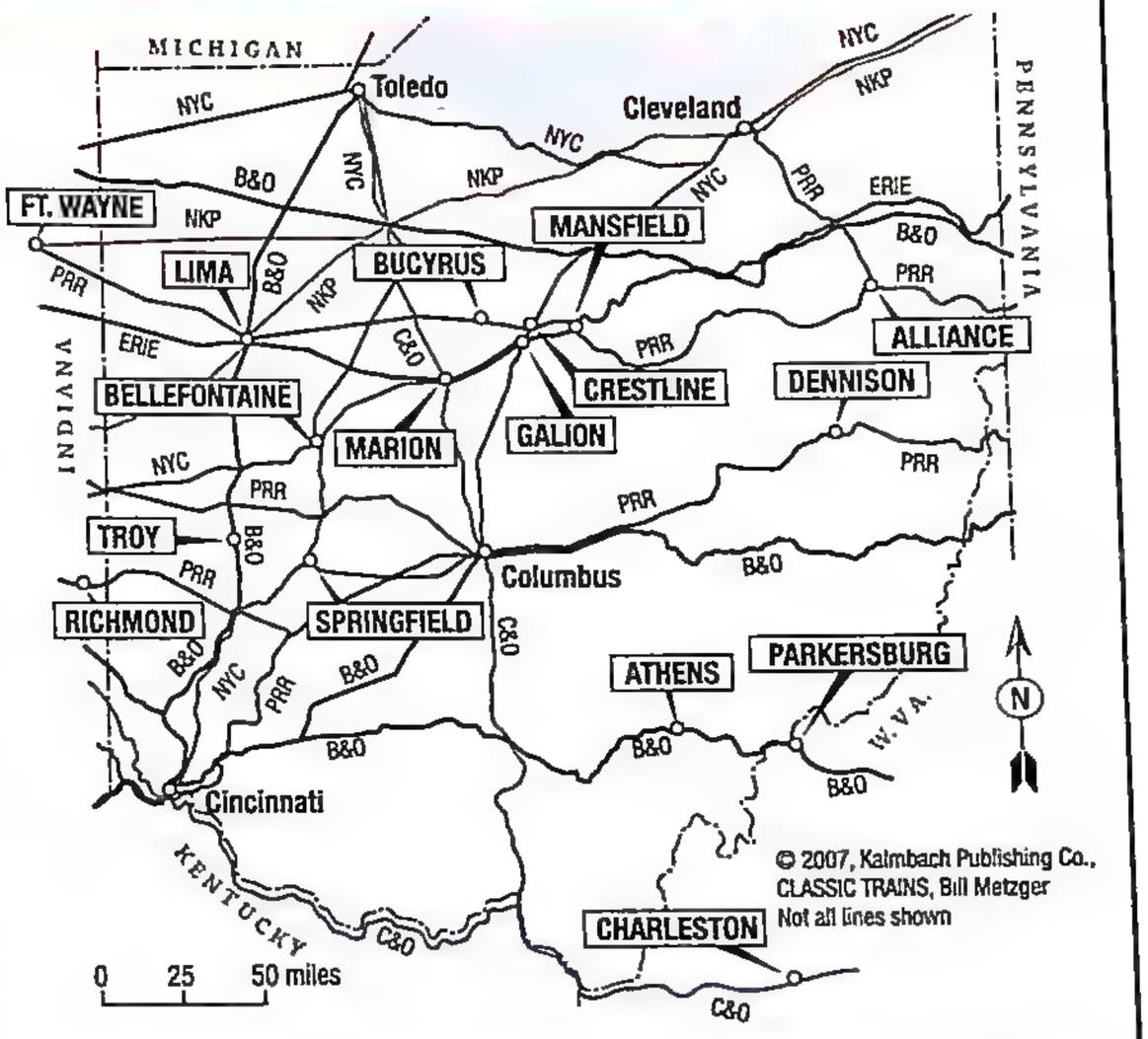
Canteens networked. There were six on the Pennsylvania Railroad's main line between Chicago and Pittsburgh. Short station stops meant that only a fraction of the men on each train could be served at each one. The canteens up and down the line communicated with each other to coordinate their efforts so all the troops would be served.

Most canteen volunteers were female. Wives and daughters of railroad men staffed several. Teenage girls nearly caused the closure of Crestline's canteen with their flirting. A three-year-old handed out cookies at Bellefontaine, Ohio. A few ladies met future husbands as they came through on troop trains. Mothers and wives of servicemen volunteered, some continuing even after getting word that their loved one was missing, captured, or killed in action. Working in shifts, volunteers served troops in every weather condition, round the clock, for years on end.

Most canteens operated out of a small white hut on the station platform; a few (like Dennison's) used rooms in the station. In Clinton, Iowa, the Chicago & North Western loaned the volunteers a dining car. Reno, Nev., had a white hut plus a mobile trailer.

Canteens served troops on scheduled trains, troop trains, and hospital trains. A few served German and Italian prisoners of war as they were moved to prison camps in America; German POW's at Marion, Ohio, returned the favor by becoming regular supporters of the local canteen. Some canteens sent delegations to pass out cheer at Veterans Administration hospitals, others sent boxes of gifts, and some collected funds to bring mothers of wounded troops to the hospitals. A few offered free taxi service for men needing a lift home. When the war in Europe ended, several canteens became collection points for clothing drives to aid the war-ravaged continent.

Every canteen was unique, and each one has a powerful story that reveals the humanitarian fabric of America.—*Scott D. Trostel*



Canteen capital: Ohio had more depot canteens than any other state. Margaret Clingerman of Bellefontaine helped found 8.

★ CANTEEN HONOR ROLL ★

Volunteer-based, railroad-station canteens operated during World War II in these 45 towns and cities, listed alphabetically by state. There may have been more. Space does not permit a detailed discussion of each, but all of them sacrificed, just as Dennison and North Platte did, and all of them deserve to be recognized.

California: Martinez, San Mateo

Connecticut: Bridgeport

Illinois: Streator

Indiana: Elkhart, Evansville, Ft. Wayne, Richmond, Terre Haute

Iowa: Clinton, Oelwein, Waterloo

Kansas: Arkansas City, Dodge City, Neodesha, Newton

Kentucky: Bowling Green

Michigan: Grand Rapids

Missouri: Springfield

Montana: Helena

Nebraska: Grand Island, Lincoln, McCook, Norfolk, North Platte

Nevada: Reno

Ohio: Alliance, Athens, Bellefontaine, Bucyrus, Crestline, Dennison, Galion, Lima, Mansfield, Marion, Springfield, Troy

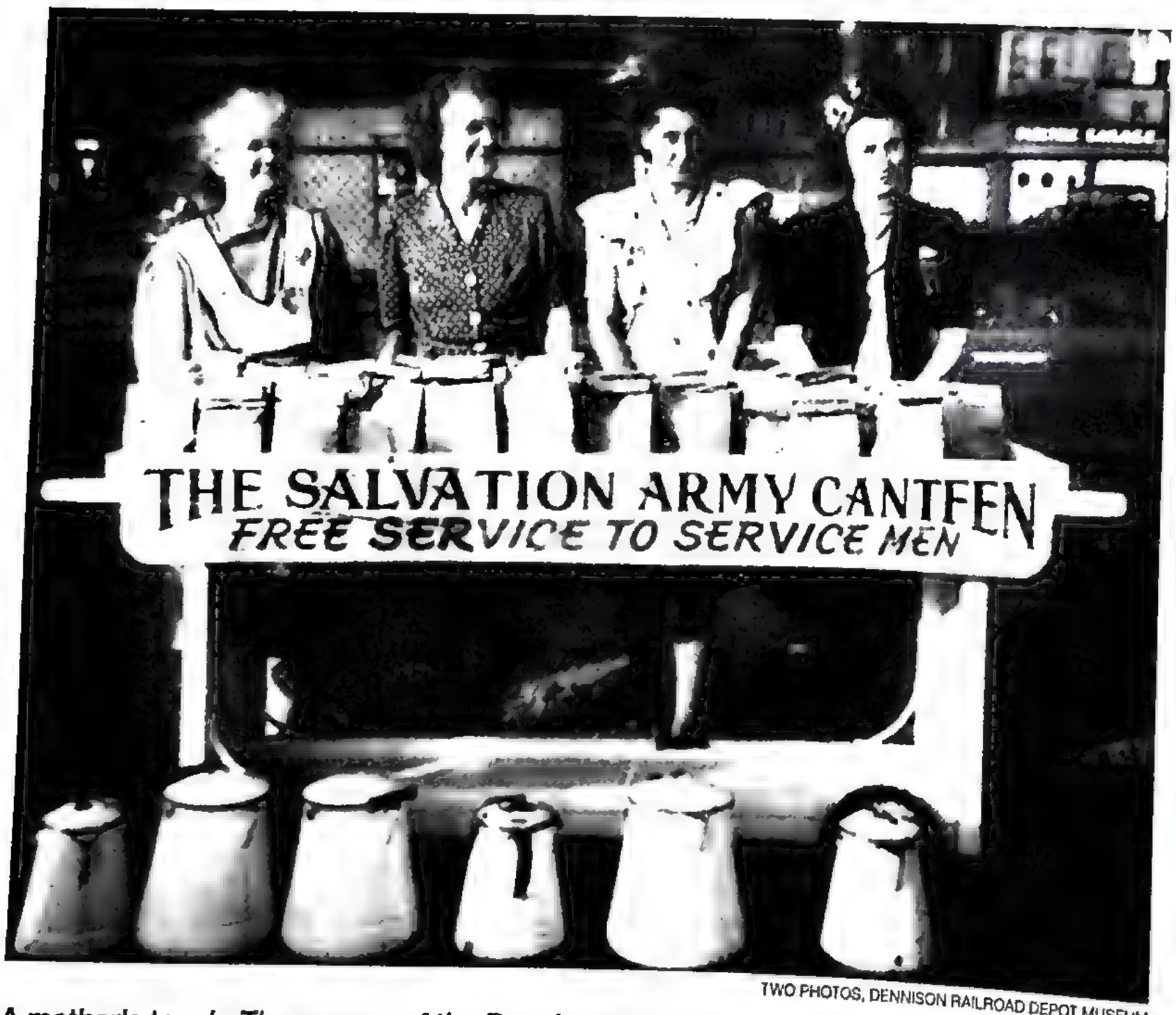
Pennsylvania: Connellsville, Sayre

South Dakota: Aberdeen

Texas: Corpus Christi, El Paso

West Virginia: Charleston, Parkersburg

In saddle shoes and knee-length dresses, five canteen volunteers strike a playful pose on the brick platform at Dennison. Troops would remember their friendly faces for decades.



TWO PHOTOS, DENNISON RAILROAD DEPOT MUSEUM

A mother's touch: The women of the Dennison canteen were of all ages. At least one observed that servicemen, missing their Moms, related better to the more matronly ladies.

our own needs." Rural people had chickens, so eggs weren't a problem, and the surrounding orchards would often donate bushels of fruit in season. If the canteen ran out of anything before a new shift arrived, Mary Hunt would use petty cash and go to the store on her bicycle.

Meat was among the rationed commodities, but Clark's market helped, sometimes under the table. "I don't know how they did it," says Rufenacht, "but they'd say, 'That's for the boys.' They didn't give us as much as we needed, but they gave a lot. And we'd make it into a ham salad or something that would stretch."

Barb Maurer recalls one very special donation. Grocer Alex Sales "was out here on the platform about a week before Christmas, and he saw all these boys going through and wanted to cheer them up a little bit. Of course there were no chocolates, period." Undaunted, he called a supplier in Cleveland and told him he wanted 500 boxes of chocolates for Christmas Eve. No one knows how the supplier did it, but Sales got his chocolate, and hundreds of servicemen had a better Christmas because of it.

Alex Sales was Jewish, and Maurer describes him as "a great gentleman and a great businessman." He never told the townspeople about his act of kindness—Maurer didn't hear the story until years after it happened, and she heard it from Sales' son.

"ARE WE GOING VIA DENNISON?"

Organizing the actual feeding of the soldiers was an undertaking in itself. The trains often had several hundred men on board, and they might or might not be allowed to detrain, at the commanding officer's discretion. The troops were either fed through the windows of the cars or they would line up on the platform, mess-hall style, to get coffee from one volunteer, sandwiches from the next, and so forth.

Anna Rufenacht still has a ready wit, and hers is an interesting perspective on the servicemen and the people who dispensed the food. The men weren't looking for girls in bikinis, she says, because most of them missed their Moms more than anyone. "I was one of the younger ones,

The stops were so brief, and the task of feeding the men so great, that there wasn't much time for flirting.

and they'd [just] take what I had, but if they took it from an older woman, they'd hold their hands. You'd think of that later, and you'd think, why didn't they hold my hand? I was cute and peppy!"

But for most of the men, it was Mom who used to put up their sandwiches. They can be forgiven for getting sentimental at the sight of a middle-aged woman offering food. *Time* magazine called the American fighting man "the most homesick soldier in the world," and to hear Rufenacht tell it, *Time* may have been right.

All of this raises the question of whether the younger volunteers flirted with the soldiers. Surprisingly, not very much. The stops in Dennison were so brief, and the task of feeding the men so great, that there wasn't time. To this day, most of the volunteers will tell you it was all a blur of hands. Rufenacht recalls, "By the time we got them fed and gave them coffee, maybe you could give them a second glance, but by that time—*ffftt!*—they were gone!"

The girls may not have flirted much, but the boys sometimes did, Rufenacht says. "Some of them would come running down just to give the women hugs, and then they'd get back on and they'd get yelled at, but they didn't care."

And from time to time, there were some deeply romantic encounters at the canteen. Rufenacht got married to a local soldier during the war. She starts to tell about a station reunion, then stops short and says, "I cry every time I tell this story."

Her husband, Junior Rufenacht, picks up the narrative. "We left Camp Atterbury in Indiana, headed for Camp Lee in Virginia. We went through a town, I think it was Columbus. The train hesitated, and there was an elderly man standing there—I think he worked for the railroad. And I said, 'Are we going through Dennison?' He said, 'Yes.' So I scribbled a note to this man: 'Would you please call this number in New Philadelphia, Ohio, reverse the charges, and have my parents bring my wife down to the depot?' So we go on into Dennison, and there they all three were, standing out in front of the depot."

There was only one problem: the soldiers were ordered to stay on the train. That just wasn't good enough for a young couple in love during wartime. "There's not enough people in this army to keep me on this train!" Junior said, and he swung down the step and into his wife's arms.

"I got a hug and a kiss, and away he went again," says Anna, her eyes tearing at the memory after more than 60 years.

Then there was Mary Hunt's sister, Betty. Like the other volunteers, she didn't have much time for flirting . . . but she did put her name and address in one of the magazines they gave the boys, and it was discovered sometime after their train left Dennison. "There were three fellows together," Hunt recalls, "and one of them says, 'I don't want the address, I'm engaged.' The other fellow says, 'I'm married.' And Albert says, 'I'm not. I'll take it.'"

Albert was Albert Novak from Brooklyn, N.Y. He wrote to Betty; she wrote back, and they kept writing all throughout the war, even after Betty joined the WAVES.

After he got out of the service, Novak called and asked if he could visit Betty in Dennison, and late in 1946 or early in 1947 they finally met for the first time . . . and he walked her down to Gardner's Jewelry Store to buy a ring. They were married that June.

★ High Plains oasis ★

UNION PACIFIC RAILROAD MUSEUM

No discussion of World War II canteens would be complete without a look at the biggest of them all, in North Platte, Nebr., then as now a hub on Union Pacific.

It all started just 10 days after Pearl Harbor, when townspeople heard a rumor that their locally raised Company D of the Nebraska National Guard would be coming through town on a UP train. Trains usually stopped at the downtown depot for about 10 minutes, so 500 residents turned out with food and cigarettes . . . only to learn that the train was carrying Company D of the *Kansas* National Guard.

It didn't matter. They were somebody's boys, even if they weren't North Platte's. The modest gifts were bestowed on the astonished and grateful Jayhawkers, and the train roared off into the night, gone but not forgotten.

Twenty-six year-old Rae Wilson got an idea. She wrote a letter to the local newspaper. She talked it up to the local women, the town's businesspeople, and to the UP . . . and on Christmas Day 1941, the North Platte Canteen was open for business. It wouldn't close until April 1, 1946.

Like Dennison, North Platte was a railroad town. It sat squarely astride the Overland Route, with the high traffic volumes and strategic importance that status implied. The town is and was vital to Union Pacific, and it was UP President William M. Jeffers, himself a North Platte native, who personally approved the use of his depot's lunchroom space for the canteen.

But UP's Nebraska Division was even busier than Pennsy's Panhandle. The numbers are amazing: 2,000 to 3,000 soldiers and sailors came through in an average day, and the number rose as high as 8,000. The canteen once served 2,000 men from four different trains in the space of just half an hour. An estimated 55,000 people, mostly women, volunteered at North Platte, and they came from as far as 200 miles away. (Just as in Dennison, surrounding towns had their own days to work the canteen, and the volunteers faced all the same issues with rationed fuel and food.) By the time the canteen closed, an estimated 6 million personnel had been served.

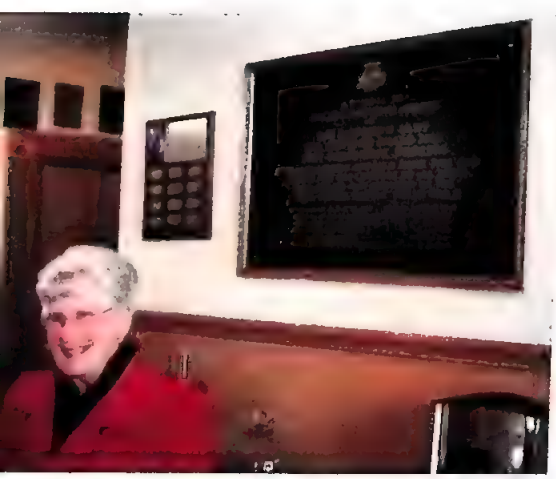
The North Platte depot didn't fare as well as its Dennison counterpart. UP razed it in 1973, and today, only a simple brick-and-concrete monument, sometimes littered with broken glass, marks the spot where a town poured out its heart for the boys in uniform 60 years ago.—*Peter A. Hansen*

DENNISON RAILROAD DEPOT MUSEUM

Salvation Army Adjutant Elizabeth Brooks waves to an eastbound train on April 7, 1946, final day of operation for Dennison's canteen. Its work was over, but not the memories.

PETER A. HANSEN

Canteen alumnae Anna Rufenacht (above, with display) and Mary Chalfant Hunt (below, with plaque from PRR) help preserve history at the Dennison depot museum.



PETER A. HANSEN

"I'LL BE SEEING YOU"

That's the kind of time it was, romantic and sentimental, a time of departures and reunions, a time when emotions were raw and life was lived close to the edge. Songs like "I'll Be Seeing You" became hits because they celebrated that sentimentality, and because they celebrated small towns like Dennison. In fact, Dennison adopted a similar song as its own: Glenn Miller's "Dreamsville, Ohio" of 1941 was never a big hit, but it was another schmaltzy number about the town and the girl you left behind.

More often than not, you left that girl on a railroad station platform, and if you were one of the lucky ones, that's where you found her again, amid the steam and coal smoke.

Because of the canteen, Dennison's depot was remembered fondly by men

Dennison served 1.3 million cups of coffee, 1.6 million cookies and donuts, more than 2 million sandwiches.

from across the country, and they carried its reputation around the world and back again. By the time Elizabeth Brooks locked the doors on April 7, 1946, the canteen had served 1.3 million cups of coffee, 1.6 million cookies and donuts, more than 2 million sandwiches, all to 1,319,439 service men and women. The volunteers had chalked up 601,520 hours of service.

The women still carry the memory of a job well done, and like the boys in uniform, many of them regard it as one of the greatest things they ever did. "To me, it's the guys hanging out of the windows," says Barb Maurer. "That keeps coming back, and I can't forget it," she says, her voice cracking.

"It was something we could do," recalls Doris Meese, with the modesty that's characteristic of her generation. "It was the least we could do for what the boys were giving up."

Today, Dennison is a quiet place, quieter than when the shops were here, and much quieter than during the war. The Pennsylvania Railroad is long gone, and its line between Pittsburgh and St. Louis is a patchwork of abandoned segments and short lines. With the occasional exception—the town saw a flurry of activity, for example, in summer 2006 when the National Railway Historical Society held its annual convention in nearby New Philadelphia and originated a few excursions at the Dennison depot—the only train activity through town is a couple of Ohio Central freights each day.

Like the volunteers themselves, Dennison has settled into a mellow reminiscence of the days when the town and its people all did something extraordinary together. The depot has been converted to a museum honoring the town's railroad and canteen heritage. It's Dennison's major attraction, and it's very nicely done. You can even dine in a restaurant in the building's west end, where the canteen operated.

In the twin epochs of 20th century America, this town knew the lowest lows and the highest highs. Dennison was a small town, but in Depression and wartime, it lived large. If you're in the neighborhood, honor it with a visit.

★ Wartime Advertising ★

a vital artery for Victory

There's no bottom to the appetite of war. To help feed it the Great Northern Railway is transporting millions of tons from America's Zone of Plenty—iron ore and dairy products from Minnesota; grain and potatoes from the Dakotas; copper, oil, cattle, sheep and wool from Montana; lumber, grain, fish and fruit from Idaho, Washington, Oregon and California. For example: this year Great Northern will haul enough iron ore from Minnesota's Mesabi Range to load a single train 2000 miles long—an all-time record.

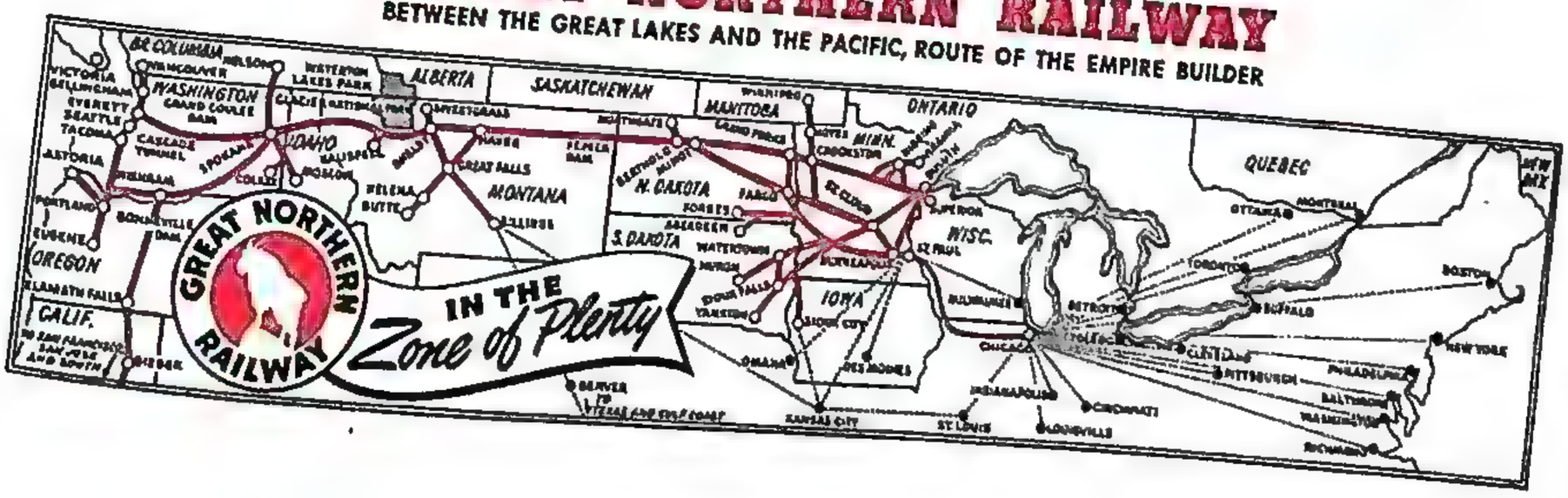
All this in addition to the movement of war materiel, fighting men and war workers.

Great Northern was in 1A shape when war came—fit and ready for service with heavy rails, well-ballasted road-bed, automatic block signals, freight and passenger cars of all types, and motive power designed for each specific job—diesel, electric, coal and oil-burning steam locomotives.

Moreover, this railway is a short, straight, low-altitude route between the middle west and Pacific ports—gateways to Alaska, Hawaii, Australia, China and all the embattled Orient. Recognized by shippers and travelers as a dependable railway, Great Northern now is serving the nation as a vital transportation artery.

GREAT NORTHERN RAILWAY

BETWEEN THE GREAT LAKES AND THE PACIFIC, ROUTE OF THE EMPIRE BUILDER

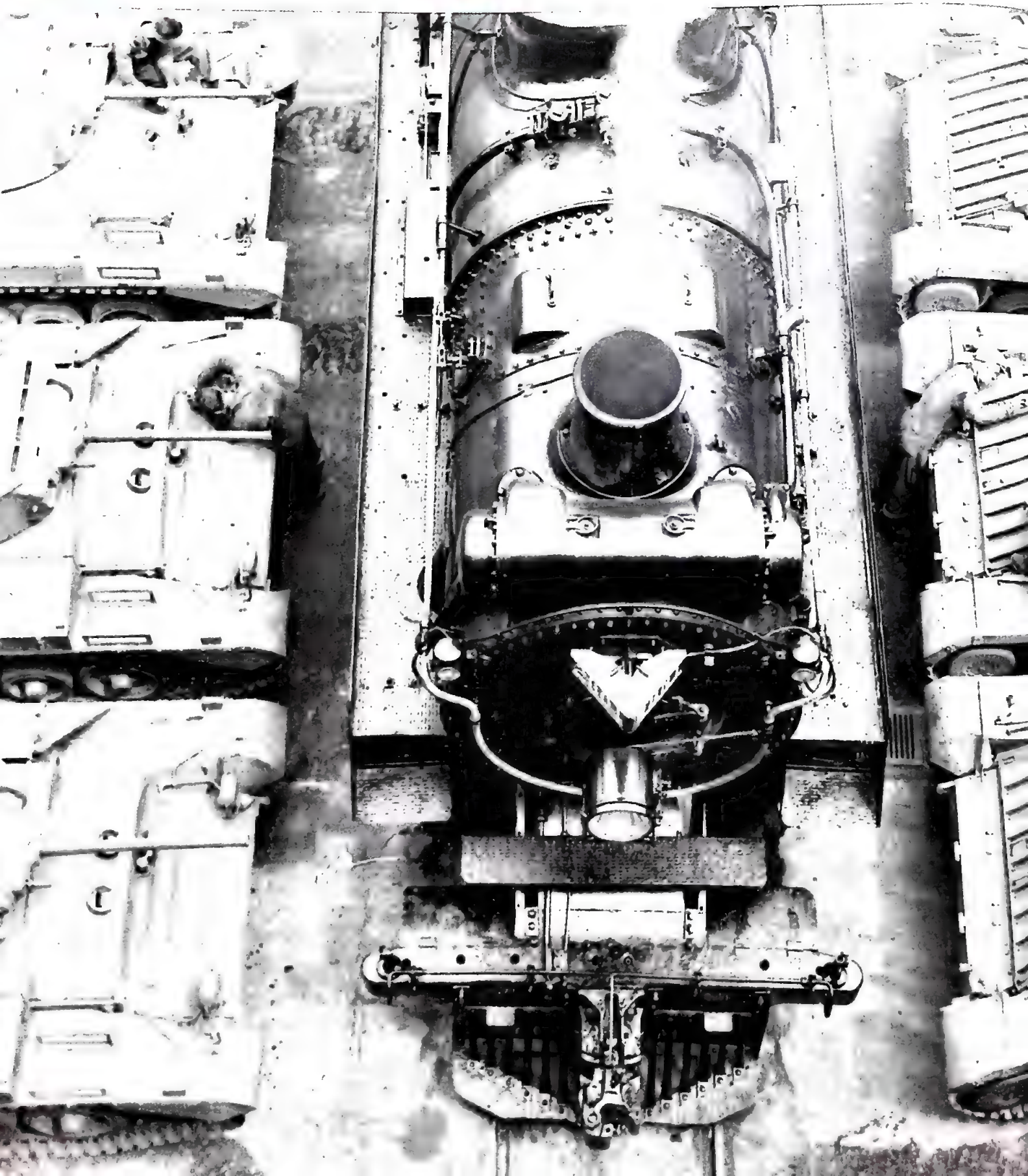


MICHAEL ZEGA COLLECTION

It's doubtful the 2-8-8-2 in this GN ad from January 1943 ever ran as fast as the artwork implies, but the message is clear: GN was up to the task of rushing war freight to its destinations. The copy refers to GN's condition being "1A"—the draft-board classification for those deemed fit for military service.

★ Photo Section ★

Closely aligned with Great Britain, Canada entered the war in September 1939. During 1942-43, Canadian Pacific's Angus Shops in Montreal produced 1,420 tanks for the USSR, 6 of which flank H-1a Hudson 2801.



Canadian National [illegible] Montreal [illegible] most[ly] eastbo[und] tional Limited [illegible] 1942. The tracks [illegible] Pacific rails [illegible] service between [illegible]

The port at Halifax, Nova Scotia, played a major role during both world wars. In a 1942 scene, CN Consolidations 2169 and 2694 wrestle a freight across the harbor.

Photo Section

GEORGE KRAMBLES PHOTO, KRAMBLES-PETERSON ARCHIVE

In 1939, interurban Cedar Rapids & Iowa City (the "Crandic") purchased five cars built by Pullman in 1931. Four of the lightweight speedsters came from the Cincinnati & Lake Erie, one from the Indiana Railroad. Crandic 120, pictured in Iowa City on May 7, 1944, is now preserved at the Illinois Railway Museum as Indiana 65.

Once the operator of traction lines in several cities throughout its namesake state, the Connecticut Co. had by 1942 switched to buses everywhere except in New Haven. Among the relics on the impoverished property were 80 open cars, used mostly to transport crowds to Yale football games. Car 1474 (Osgood Bradley, 1911) is near the university campus on August 2, 1942.

BARNEY L. STONE PHOTO, KRAMBLES-PETERSON ARCHIVE

BARNEY L. STONE PHOTO, KRAMBLES PETERSON ARCHIVE

Built in 1940, Chicago North Shore & Milwaukee's two *Electroliners* went a long way during World War II toward establishing their reputation as the most successful interurban equipment ever built. After the crushing loads of the early '40's, they racked up two decades of high-speed service on the North Shore. *'Liner* 801-802 is at North Chicago Junction in March '42.

FRANK PETERSON PHOTO, TOM GILDERSLEEVE COLLECTION

When Southern Pacific's own trackage east of Los Angeles became overburdened during the war, SP diverted some traffic to the San Bernardino line of its subsidiary Pacific Electric. SP engines ran on the PE, but because the interurban's signals required contact with the overhead wire, an electric was needed too, which explains this team of SP Mogul 1740 and PE motor 1625 on D Street, San Bernardino, in 1945.

Photo Section

On Cuesta Grade, the steep climb north from San Luis Obispo, Calif., on Southern Pacific's Coast Line, a troop train enters the grade's famous horseshoe curve. Beyond the train is the Army's Camp San Luis Obispo, a busy place even prior to Pearl Harbor because of U.S. preparations for war with Japan; indeed, this photo likely dates from before the war.

JOE SCHICK PHOTO, JAMES C. SEAGREST COLLECTION

In another prewar view, Burlington Route 2-10-4 6325 is in command of a 17-car troop extra near Keenesburg, Colo., 37 miles east of Denver, on October 11, 1941. Troop trains often got whatever power was available, hence the presence of a freight engine on this passenger-carrying consist.

Northern Pacific 4-6-6-4 5134 rolls out of Hell Gate Canyon and into Missoula, Mont., with the second section of train 1, the *North Coast Limited* in April 1945. An old coach and three troop sleepers behind the big engine's centipede tender are evidence of military personnel on the move. No. 5134 is herself a war baby, part of a group of 20 Z-8's built by Alco in 1943-44.

Most doubts about the ability of diesel-electrics to handle heavy-duty mainline work were dispelled by the machines' tireless performance during World War II. Making the point most strongly was Electro-Motive's FT, which was produced throughout the conflict. Above, a four-unit set of Burlington Route FT's heads a west-bound freight near Keenesburg, Colo., on the fateful date of June 6, 1944—D-Day.

Santa Fe, with its long runs through bad-water territory, benefitted greatly from the use of Electro-Motive diesels. Handsome blue FT's tackled tonnage, while red-and-silver E units ensured that Santa Fe style was not a casualty of war. A 1944 late afternoon finds E6's 15 (left in photo) and 13 ready to depart Chicago's Dearborn Station for Los Angeles with the all-coach *El Capitan* and all-Pullman *Super Chief*.

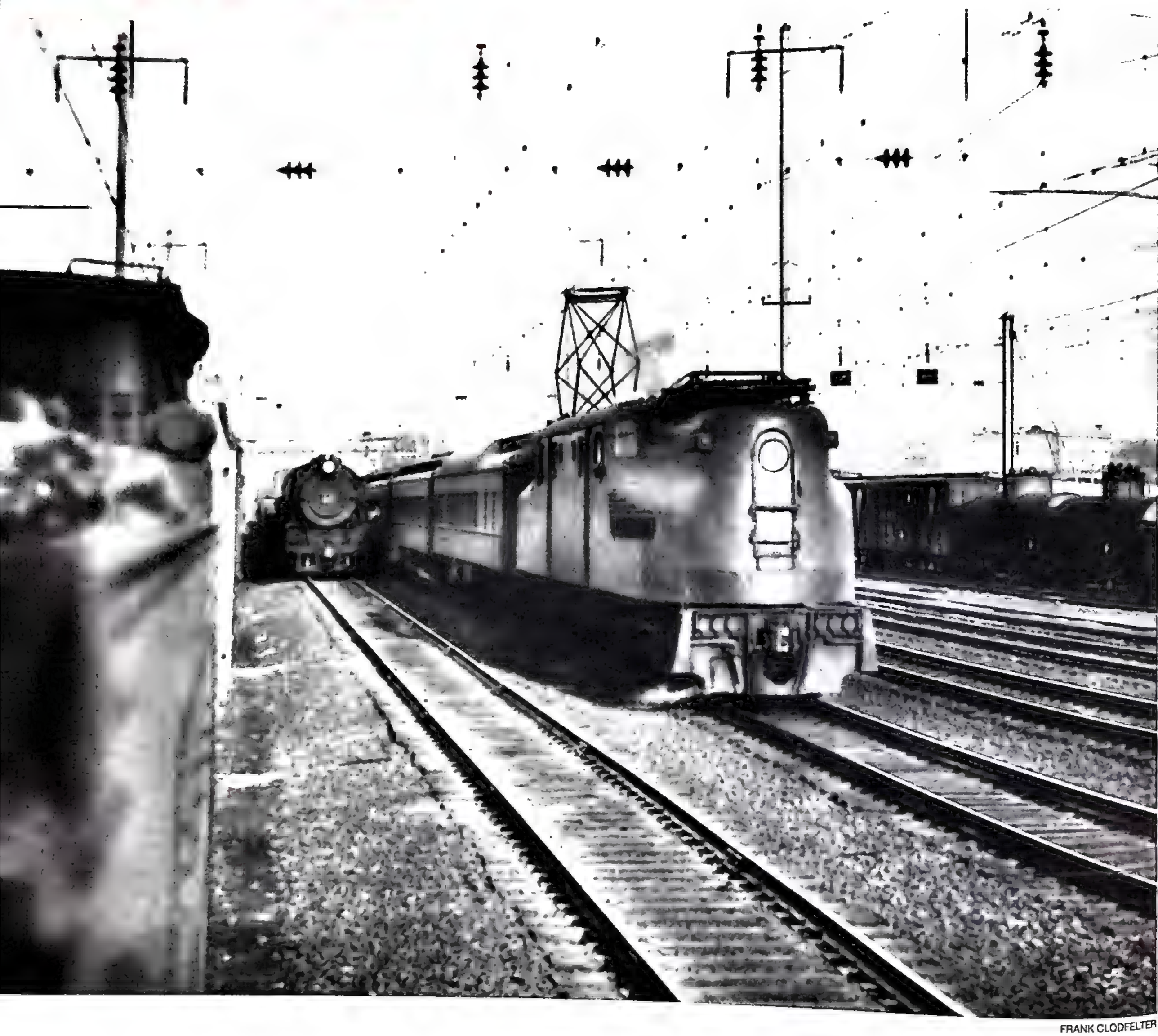
★ Photo Section ★

RICHARD J. KINDIG

At Raleigh, N.C., on a fine day in 1945, Seaboard Air Line FTA-FTB set 4013-4113 models the road's colorful "citrus" livery. The B units in Seaboard's 22 FT A-B sets were delivered with steam generators for possible use in passenger service. The RAILWAY on the emblem was replaced by RAILROAD when SAL was reorganized in '46.

JAMES L. MARTIN

★ Photo Section ★



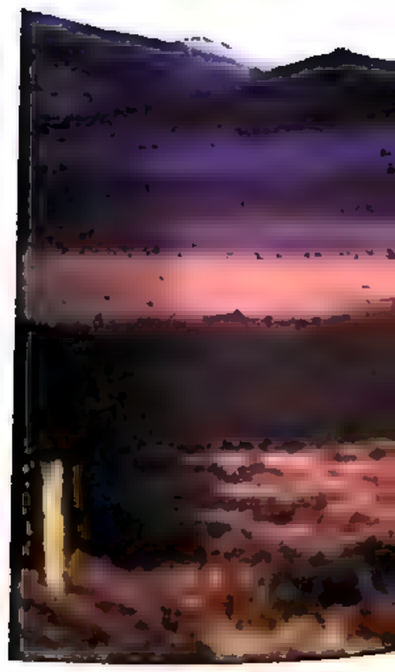
FRANK CLODFELTER

Just as diesels helped keep some roads fluid during the war, the Pennsylvania's electrification of its New York-Washington and Philadelphia-Harrisburg main lines, completed in 1938, was of immense value when the tidal wave of traffic hit. Stars of the 11,000-volt show were the great GG1's, whose numbers peaked at 139 in 1943. That same year, a GG1 on varnish breezes past 2-8-0's and freight cars in Baltimore.

[illegible] of the 2nd flight is way over the [illegible] Bay on its way to an eastbound freight [illegible] Aug. 2nd. On August 2nd, the 18th plane of Alco's Schenectady plants [illegible] during the second world war.

★ Photo Section ★

Minutes after passing through Martinez, Calif., on the SP, the eastbound *City of San Francisco* soars above Carquinez Strait. The Oakland-Chicago streamliner uses the SP-UP-C&NW Overland Route. It's fall 1941, and war is in the wind.



Out at Imlay, Nev., 352 miles east of the Carquinez bridge, GS-3 4-8-4 4423 is the classy power for the first section of freight 570 in summer 1941. When the new GS-4's took over the *Coast Daylight* and other varnish on the Los Angeles and Coast divisions earlier in the year, SP reassigned the four-year-old GS-3's to passenger and fast freight work on the Salt Lake Division.

THREE PHOTOS: W. B. WOLVERTON, COLLECTION OF W. H. WOLVERTON

In a far corner of the Union Pacific system, 2-8-2 2127 makes a majestic sight with No. 339, the daily-except-Sunday mixed train between Twin Falls, Idaho, and Wells, Nev. (on the SP-WP main line). The mixed seems to be running late on its scheduled 6-hour trip down the 123-mile Wells Branch this bright fall 1943 morning —it was due to arrive in Wells at 2:00 a.m.

Putting out the maximum effort

On Santa Fe's Los Angeles Division, as elsewhere during wartime, American railroaders worked under extremely adverse conditions

BY **JACK ELWOOD**

This story recounts World War II-era experiences on the Los Angeles Division of the Coast Lines of the Atchison, Topeka & Santa Fe Railway, but similar tales abounded on almost any busy division of every major American railroad during this critical time in United States history.

We were coping with the extra demands of a nation, first trying to supply the materials of war for our allies who were fighting for their survival in Europe, then, after our own country's complete involvement began, meeting the transportation and supply demands of an all-out war effort.

Keep in mind that our railroads for years had been in a period of almost no growth, and no equipment renewal, and that the recovery had started slowly when war was declared in Europe. Existing railroad equipment was being taxed to the maximum. Old locomotives that should have been retired were doing yeoman duty. Freight and passenger cars were returned to service from storage yards all over the United States.

After war broke out in Europe, Santa Fe's Los Angeles Terminal called on Hobart Yard, a large freight facility built in the 1920's that really had not been utilized because business had fallen through the late 1920's and '30's. When I hired out in 1940, we went out to Hobart on one of the first switch jobs I worked. The yard tracks were full of idle freight cars of every description: box, gondola, tank, and refrigerator, plus passenger

RICHARD H. KINDIG

Five weeks before the attack on Pearl Harbor, Pacific 1325 helped Northern 3753 slog up Cajon Pass, Calif., at 30 mph with Santa Fe 24, the *Grand Canyon Limited*.

ROBERT HALE

A Santa Fe L.A. Division engineer whistles from his perch on the cab seat—which might have to serve as his bed. In wartime, engine crews often would "die" on maximum hours of service in the middle of nowhere and have to remain on board for their 8 hours of rest.

coaches and baggage cars. Weeds had overgrown all the tracks and covered the switches. The sight was disheartening, but soon crews began cleaning out the weeds. The cars were taken to the "rip" (repair in place) tracks to be reconditioned and returned to service as quickly as possible.

Soon Hobart was operating at full capacity, and Santa Fe knew it was fortunate to have built the yard. Without it, Santa Fe operations in the L.A. Terminal would have been hopelessly bogged down, because the existing yard, at First Street, would clog up with the arrival of even two trains more than the ordinary.

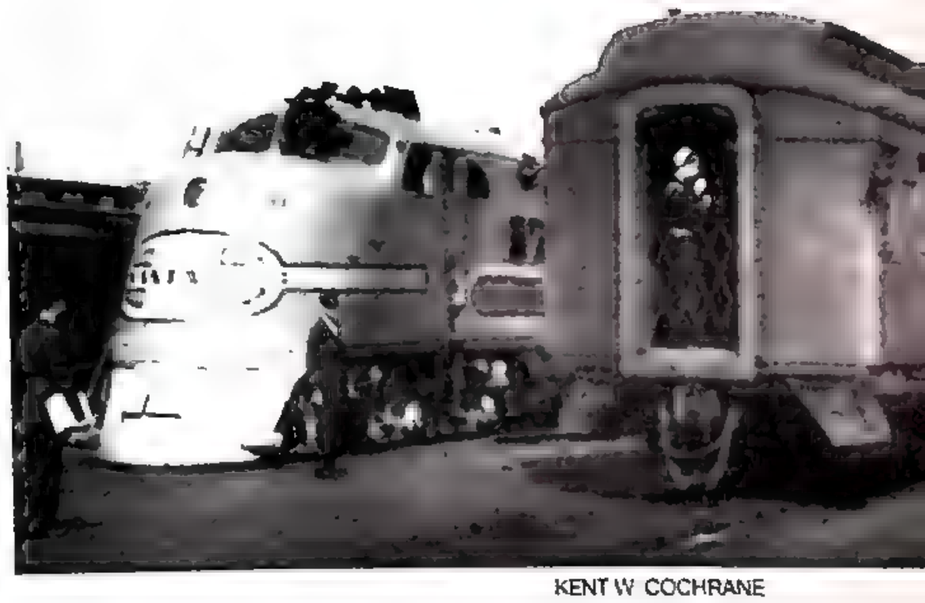
Not only was newer rolling stock nonexistent in the early 1940's, there had been no need to hire men or women for the crafts needed to operate a railroad: engineers, firemen, conductors, brakemen, switchmen, carmen, telegraphers, clerks, trackmen, signalmen, boilermakers, machinists—you name it. The steam locomotive was still supreme, as diesels had not yet made great inroads, and of course a steam locomotive is a very labor-intensive machine.

With the lack of trained personnel, those of us working routinely were doing double shifts in train, engine, and yard service. At the time, 16 hours was the federal maximum for continuous time on duty, and until new people could be hired and trained, all of us worked 16 hours every time we went on duty. This was always after only the minimum 8 hours off duty, and with no chance to lay off because there was no one to take your place. Moreover, with the war effort and the military draft taking almost everyone, getting anyone to work on the railroad was difficult. Later the federal government found it necessary to provide some workers for the railroads, lest vital rail transport come to a halt.

DRAFTED, THEN EXEMPTED

I was among 25 young, newly promoted Santa Fe engineers at Los Angeles; at the time, you had to have three years of training in order to take the promotion. All of us had draft deferments because we were working in essential railroad service. The war had been going badly for the Allies in Italy, though, and demands for additional American soldiers were strong. Suddenly all 25 of us were called up in the draft. Our deferments were being revoked, and we were required to report to the induction center at the Pacific Electric Building in Los Angeles at 10 a.m., on a date that I don't remember, for a physical exam and induction.

We were all there and had had our physicals, and were lined up to take the oath of service, when suddenly the door



KENT W. COCHRANE

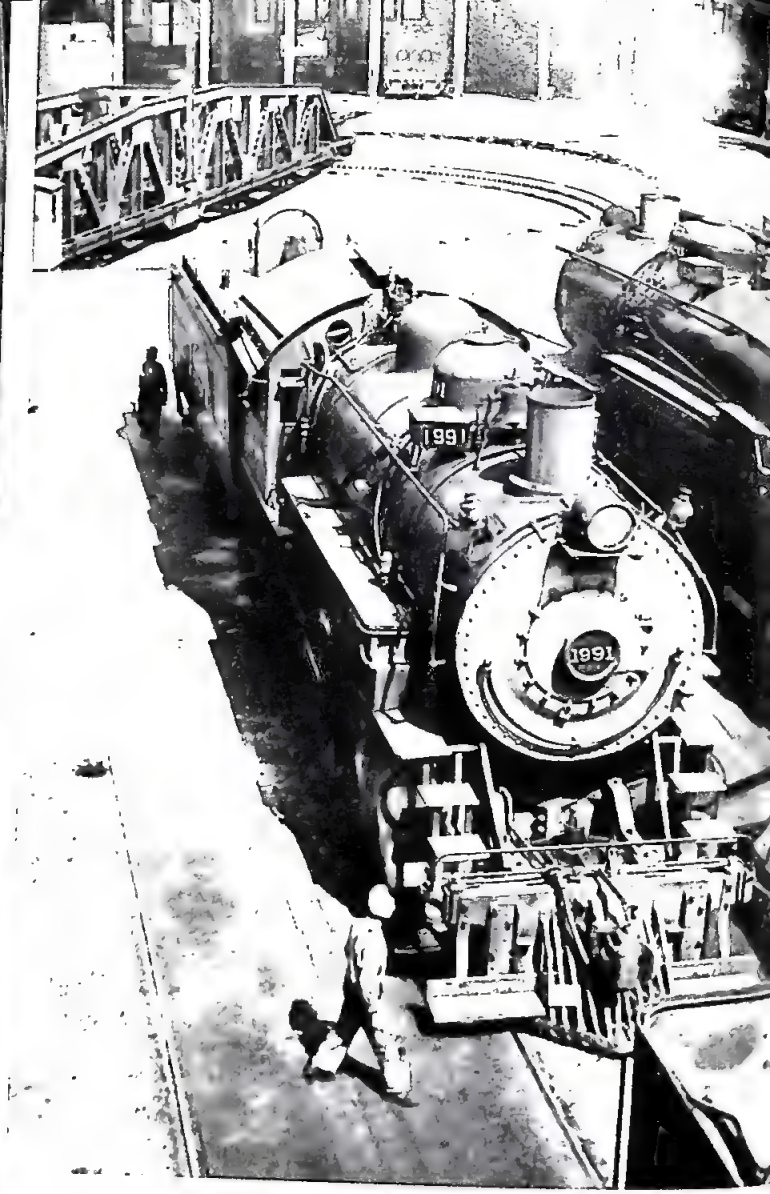
Servicemen are on hand as E1 diesel No. 3 on a *San Diegan* receives attention.

SANTA FE RAILWAY

Railroad timeclocks got record use in wartime, exemplified here by Santa Fe employees clocking in at the road's Topeka Shop.

RUSSELL GRAY

Big Baldwin 4-8-4 2907 gets her drivers steam-cleaned at Santa Fe's Redondo Junction roundhouse in Los Angeles after a run.



WILLIAM W. TURKINGTON

The roundhouse at San Bernardino, Calif., adjacent to Santa Fe's big shop, was a busy place that got even busier during the war.

opened, and everything stopped. We were told to go back to work and that our deferments had been reinstated. The Army had found out from the Santa Fe that if they had inducted all of us, Santa Fe operations on the L.A. Division immediately would come to a halt!

From this time on, no attempts were made to draft locomotive engineers. All railroad operating personnel were working long hours. New employees were scarce, and no amount of pleading for a day off resulted in any time away from the job. We were not on the battle lines, but it was not an easy time.

The tracks were crowded with trains, each waiting for a more important train to pass since many of our main lines were single-track. In our area, CTC (centralized traffic control) signaling was in the future —all trains operated on dispatcher-issued train orders. For example, the Fourth District of the Los Angeles Division, from L.A. to San Diego, had giant naval bases at San Diego and big Marine bases at Camp Pendleton and at Oceanside. The L.A.-San Diego route handled troop trains, supply trains, and the regular five or six normal round trips a day of the *San Diegans*, the passenger trains that operated in several sections of each regular schedule. It was a lesson in frustration to try to run this gauntlet of traffic with a freight train—sometimes we'd wait in a passing siding for hours at a time.

Often we would "die" on the maximum hours of service law. If you were on a siding or elsewhere out on the line, there was no place for you to take your rest—you just tried to rest on the seat in the engine cab. (There were no crew vans to take us to a motel in those days!) When the 8-hour rest period was up, you just went back on duty and tried to continue the trip.

For example, one time when I was working a job out of San Bernardino, we were called for a freight train to San Diego. After much delay, we finally got out of town but went only as far as Corona—35 miles in our first 16 hours! After 8 hours of "rest" on the engine, we started again and got as far as Orange, another 35 or 40 miles. After another 8 hours off—on the seat on the engine, of course—we were able to start out again, I had a handful of train orders for waits, meets, and passenger trains running with sometimes several additional sections ("First No. 74 and six following sections"). You were stuck where you were until all these sections, or trains, were by, unless the dispatcher had given you a train order allowing you to follow a certain section (say, the fourth section of No. 74 with en-gine 3743) and proceed to a named station (siding) for the other following sections.

We finally got our train from Orange to Oceanside in 16 hours, and we were able

to lie down in the caboose for a short time. Then, after our 8 hours off duty and three straight days on the road, we were instructed to run around our train and take it back to San Bernardino!

This return trip soaked up two more 16-hour days, and I found out later that the San Bernardino yardmaster had run our train out of his yard simply to get a clear track for a more important train! All the time we were out on the road, that track was able to be used for higher priority traffic. It was not unusual for westbound trains to be lined up out of San Bernardino for several miles waiting to get into the yard. It got even worse after the war in the Pacific Theatre intensified.

"How did we eat?" you may ask. That's a good question, for indeed, engine and train crews during these times found it difficult to get anything substantial in the way of meals out on the road. Meat, butter, and coffee were being rationed, and many other commodities were in short supply. As a result, restaurants along the line were seldom able to provide adequate meals. Mostly we survived on pancakes and coffee, when available.

There were exceptions, though. I recall working switch jobs in the L.A. passenger coach yard, handling troop trains for cleaning and servicing. The dining cars and troop kitchen cars, with GI cooks, had butter, meat, sugar, and all the things that were rationed to civilians. The GI's had to dispose of any surplus, because they said if they didn't use all their supplies, they would not be issued more. Naturally, many of them gave the excess items to the switch crews lucky enough to be on those assignments. Such waste and foul-ups were the norm, yet we won the war despite it all.

WAR FORCES CHANGES

After the attack on Pearl Harbor, things on our railroad were improved—by necessity. The Fourth District was equipped with CTC signaling, allowing for more efficient handling of trains. Yard facilities were expanded, and to the benefit of all railroads, locomotive builders were allowed to use more steel and other metals in order to produce more badly needed locomotives and cars. The West Coast became busier than

A vital artery in the 1940's, as it still is today, Cajon Pass hosts the doubleheaded *Grand Canyon Limited* heading eastbound.

HERB SULLIVAN

FLETCHER SWAN

Not the country's finest hour, perhaps, but in early 1942, Santa Fe carried many trainloads of southern California Japanese-Americans from urban areas to inland locations. Here, 4-8-4 3773 rolls 17 cars of internees and their belongings west of Arcadia, Calif.

TOM PRUCHA

Just like engines, cars had to be shuffled around to handle wartime crowds. At Buena Park, Calif., ex-Interurban Electric cars (lettered U.S. Maritime Commission), plus at least one from Union Pacific, are on a Santa Fe train bound from Los Angeles to San Diego.

ever as hostilities shifted to the Pacific. The branch to the L.A. and Long Beach harbors was almost at full capacity, with long, heavy trains of oil, chemicals, and military equipment moving constantly. The Navy had a large presence at Long Beach, with a big shipyard. Branch volume tripled, and yards filled up with trains held back waiting for track space.

A new factor that came with our entry into war with Japan was the government's concern that U.S. West Coast cities could be bombed. Heightening this fear was an incident in February 1942 wherein a Japanese submarine fired at an oil storage facility in Ellwood, Calif., about 12 miles up the coast from Santa Barbara. This resulted in a barrage of regulations from the Department of Defense, among which was one for railroads that dictated all locomotives had to have their headlights and classification lights hooded so they could not be seen from the air. Headlights would be lit on "dim" only, and firemen were instructed to keep the fire from flashing and not allow fire to show from the damper opening at the bottom of the firebox.

All yard floodlights were to be kept off, and all switchlights and trackside signals were to be hooded. Switchmen working with lanterns would keep the lantern hooded so only a pinpoint of light could be seen. As you might imagine, the first night these directives went into effect resulted in utter confusion. Picture a busy freight yard with engines and men working all over but no lights showing. The work accomplished under such conditions is a tribute to the railroaders who coped with them. Fortunately, some of these government directives were soon lifted by more rational thinking civilian defense people, probably prodded by railroad management who knew the directives were unsafe and counterproductive.

As the war with Japan progressed, train volume kept increasing. The pressure on our Los Angeles Division crews was intense, as we all worked under adverse conditions for several years. I would be remiss if I failed to mention that during this time, skilled-labor employees working in other industries contributing to the war effort—aircraft and auto plant workers, those engaged in shipbuilding and steelmaking, tradesmen in many crafts such as machinists and electricians, for examples—all enjoyed being paid time-and-a-half for any work over 8 hours. This was not true for unionized railroad crews, as we worked 16 hours for straight-time pay, with no overtime, no rest days, and no vacation time, no matter how many years one had with the company.

During the war when industry worked on a cost-plus arrangement with the government, I believe the railroads had the same agreement, but railroad management defied all attempts of our railroad Brotherhoods to get the same overtime-pay treatment. Railroads were so vital to the war effort that any threat of a work stoppage for equity of wages brought on threats of the government taking over the railroads and putting the operating crews in the Army.

Finally, after the war, in May 1946, railroad operating crews obtained time-and-a-half pay after 8 hours, and one week paid vacation, but this was many years after other segments of America's unionized skilled labor enjoyed such. But that was the way life was on our railroads during World War II.

★ Wartime Advertising ★

What's the Olympian "in the hole" for, Bill?

CONDUCTOR BILL can't talk about his railroad orders in wartime—even to such an old friend of the line as Monty Miller, foreman of the Angle D ranch.

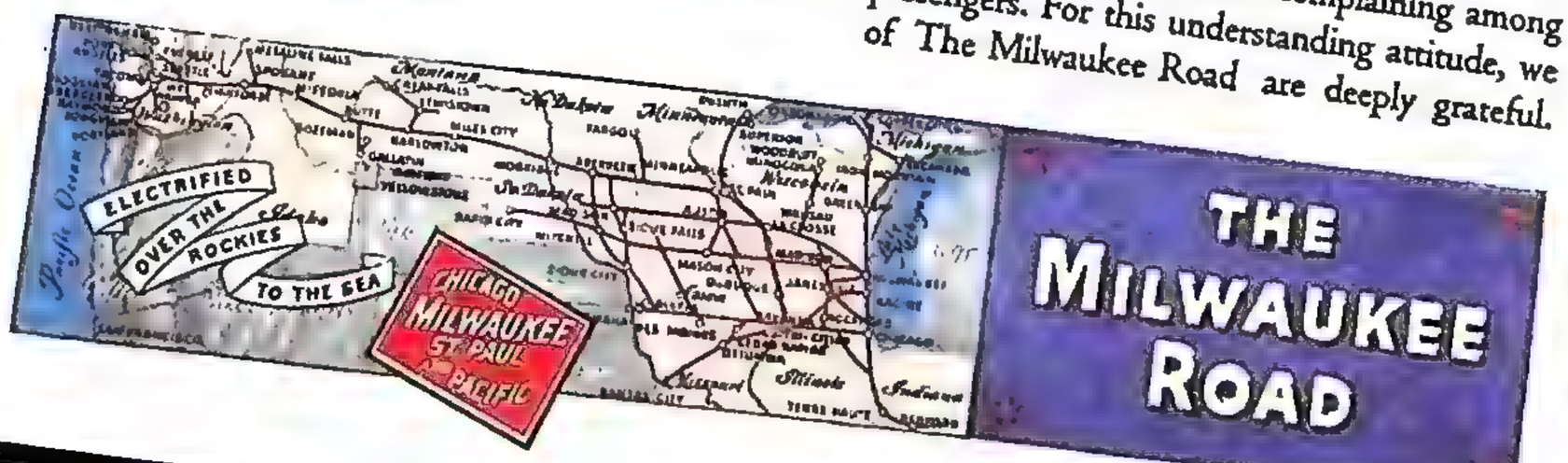
It may be the famous, electrified Olympian has gone "in the hole"—which is railroadese for waiting on a side track—because it's more important for a military train to have right of way.

Station agents, conductors, brakemen, and other railroad men don't like to appear unobliging—but they've pledged themselves for the duration to give no information to anyone about unusual train movements.

That's in the interest of national security. An idle word dropped about a troop train—or a supply train's schedule and destination—might reach enemy ears and lead to an attack on a convoy days and even weeks afterward.

For the most part, passengers realize this situation. They too, keep mum about war traffic they see on the railroad.

If the Olympian, the Hiawathas, the Pioneer Limited or other heavily traveled trains happen to be delayed, there is little complaining among passengers. For this understanding attitude, we of The Milwaukee Road are deeply grateful.



JEFF HAMPTON COLLECTION

Two of the Milwaukee Road's prized achievements—the long reach across the West of its Pacific Extension, and the electrified districts thereon—are showcased in the artwork of this 1944 ad. The copy deals with congestion (and the delays it caused) and the need to control information about war-related trains.

Tales of a G

hogger

As an engineer in the Army Transportation Corps, I railroaded my way through the war in Louisiana, North Africa, and western Europe.

BY LES HOFFMAN

[redacted] I was [redacted] and I was assigned to the Army Engineers. [redacted] I was told to pack my bags and get on a bus. As we went out the gate someone hollered, "Highball the gate!" and I settled back with a big sigh of relief. "Highball the gate" is a railroad expression that means don't stop when the caboose clears the switch; someone else will line it up.

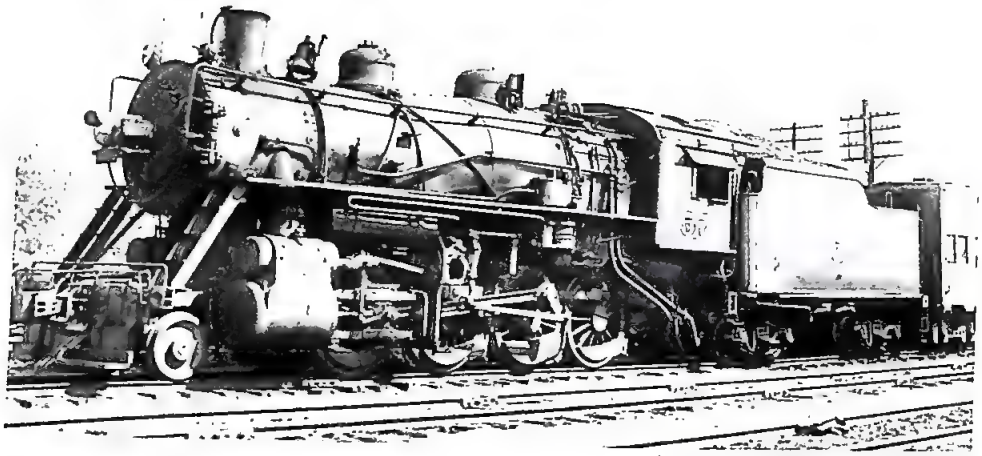
LOUISIANA

TRAINING ON THE MOPAC

Initially we were assigned to the Army Corps of Engineers, but it wasn't long before the Army Transportation Corps was formed. I was in the 759th Railway Operating Battalion. After basic training, we were put to work in Louisiana operating a 51-mile Army railroad between Camp Claiborne and Camp Polk (the Claiborne & Polk, or "Crime & Punishment"). My experience with oil-burning locomotives got me the job of firing the C&P's daily passenger train. It was one very slow railroad but a lot better than basic training, and I fired for a really good fellow off the Missouri Pacific.

After a month of that we were moved up to Van Buren, Ark., to train on the MoPac. The first night I was called for a job, I was told that my fireman's name was Clapsaddle. I said, "I'm not an engineer, I'm a fireman, and there can't possibly be anybody named Clapsaddle!" But Bill Clapsaddle really did exist, and I had been promoted to engineer despite having only four

Army railroaders (from left) Lewis C. Knight, Joe DiCuffa, and William Almstead have reason to be happy: they're handling the first train to run from Warburg to Bremen, Germany, under Allied auspices.



ROBERT F. COLLINS; LOUIS A. MARRE COLLECTION

Missouri Pacific 2-8-0 No. 57 heads up a troop extra at Van Buren, Ark. Author Hoffman trained in these parts but was overseas by the time of this September 15, 1944, photo.

months of firing experience—in civilian life, it took three *years*.

During our six months riding up and down the MoPac, some engineers would let us run the engine, some wouldn't, but either way we always learned something. One engineer in particular was especially brave. On a midnight job in the Van Buren yard, he watched me work for a while and then said that if I needed him for anything, he'd be in the yard office. So I switched cars the entire night all by myself—quite something, I thought. He did get a worried look on his face when he learned I had to switch the General Manager's business car off the morning passenger train, but everything had gone nicely and the GM never knew.

I was in seventh heaven the day I got to run a MoPac passenger train. Man, did we go! The engineer was sitting right behind me just in case, but he never opened his mouth.

On the downside, that railroad was my first experience with coal-burning locomotives, and I wasn't too happy with them. Later on, overseas, we had mostly coal-burners and my opinion never changed. They were good on yard jobs, but not on the road. You always had to run the engine with the fireman in mind.

Finally came the day when the Army decided we probably knew enough not to kill ourselves outright. They loaded us onto a train bound for New York City, where we were put on a converted United Fruit Company ship. The officers got the passenger quarters and we enlisted men had the banana section. It wasn't bad, but it was damned crowded. On that 450-foot ship there were 2,700 men, with bunks for only half that many. Half of us stayed below in our bunks and the other half on deck, switching every 12 hours. We traded shifts the second half of the voyage.

The biggest worry was when we broke down and stopped in the middle of the Atlantic to make repairs. The convoy couldn't wait, and after an hour the destroyer escort that had stayed behind with us left, too. It sure felt lonesome out there. Everywhere you looked you could imagine U-boat periscopes. But soon the repairs were finished, and we went like a bat out of hell to catch up.

ALGERIA

SAND AND SCORPIONS

After 12 days on the water, we landed at Oran, Algeria, on the Mediterranean coast of Africa. That was an education for all of us. From out on the bay it looked like a nice town, but when we got ashore and saw how it really was, we appreciated how clean American towns were.

The first night we slept in pup tents on the ground at a staging area. When I woke up the next morning, I felt something and flipped back the blankets to see one mighty ugly scorpion. I gave him the bed in a hurry. I figured the poor thing only wanted to keep warm.

After a couple of days in Oran, we were loaded onto boxcars bound for Algiers. The boxcars were called 40-and-8's (capacity: 40 men or 8 horses), had only four wheels, and were half the size of stateside cars. We looked at them and decided it would be a slow go to Algiers, but we were mighty wrong. They must have hit 40 mph before we were even out of the yard.

The Army had experimented with this type of boxcar back at Camp Claiborne and had averaged one derailment per mile with them, but that may have been because standard automatic couplers were used, which might have been too rigid for such a small car. The couplers in Africa and Europe were link-and-hook types with buffers at the corners and were very flexible. They worked fine but were much more dangerous for the brakemen, who had to stand between the rails while the cars came together to couple. If they stumbled, there went an arm or a leg. A

I was in seventh heaven the day I got to run a Missouri Pacific passenger train. Man, did we go!

AMERICAN LOCOMOTIVE CO.

An Army 0-6-0T looks on as one of the 2,120 S160-class 2-8-0's built by Baldwin, Alco, and Lima between 1942 and '45 for overseas duty is unloaded from a ship at the French port of Cherbourg in 1944.

couple of our men lost limbs that way.

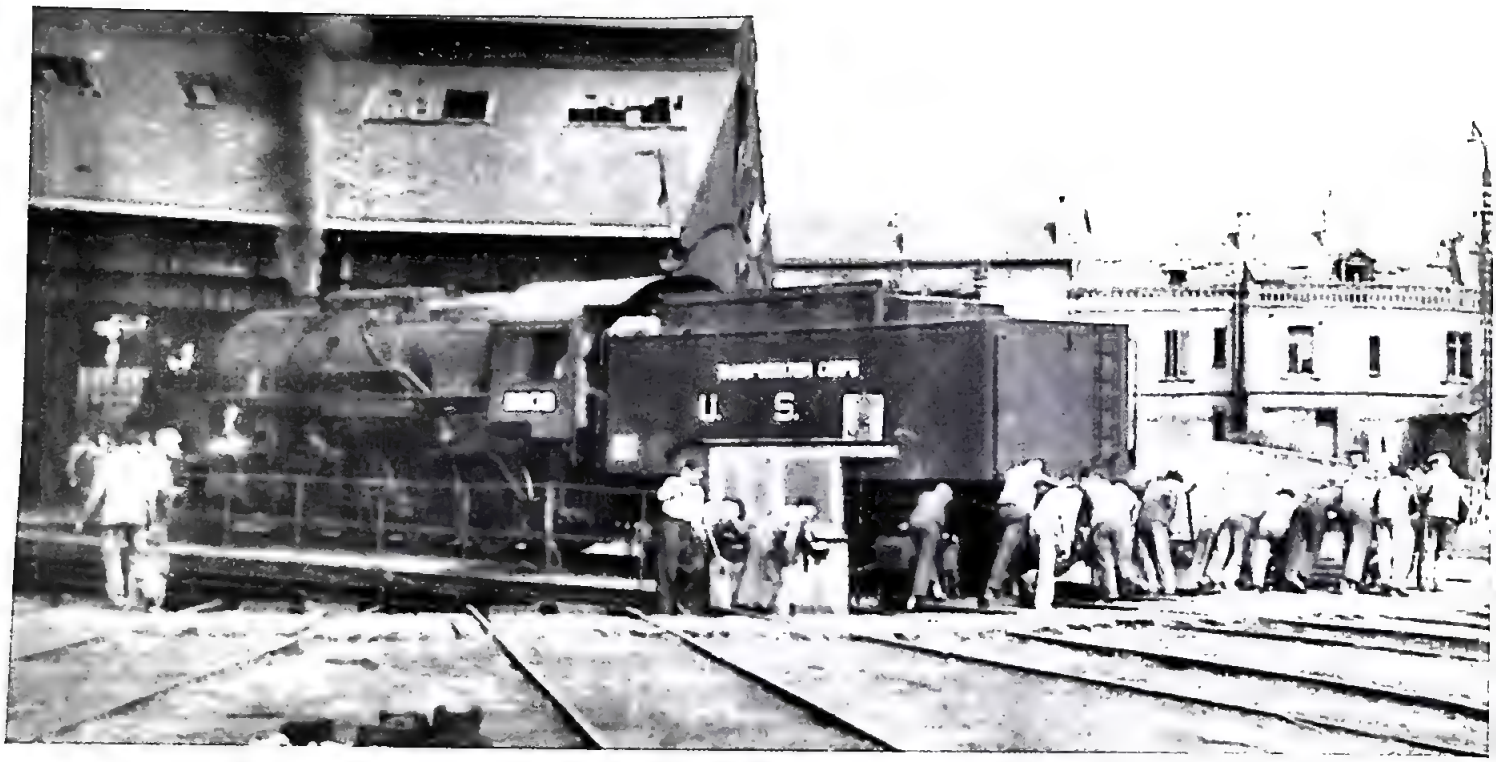
When we arrived in Algiers, the anti-aircraft gun emplacements and a sky full of barrage balloons made us realize there was a war going on. There was no action that night, which made me feel something between relief and disappointment. It was probably the safest town around, because at the time Gen. Dwight D. Eisenhower had his headquarters there.

The next day we traveled 30 miles east to Mennerville, which was our home for the next 14 months. Of all the railroads we operated overseas, that one was the most interesting. The rolling stock was antiquated, but the engines were good and relatively modern.

After a few weeks, we got brand-new GI 2-8-0's built by all three U.S. manufacturers to the same blueprints. They had a few design flaws (unquestionably the fault of the military), such as using steam to operate the sanders. Steam condensed in the sand pipes and plugged up the works with wet sand. They also had steam-operated engine brakes, which worked well once they were warmed up, but if the need caught you by surprise, it took a full minute for the brakeshoes to start bearing against the wheel and even longer to start exerting strong pressure. We understood the need to have no headlights in a war zone, but electric lights to illuminate the water glass and steam gauges would have been nice—we had to make do with kerosene lanterns. We could not understand why there were no cushions on the seat boxes. I solved that problem by stealing a cushion out of a wrecked Sherman tank.

Our outfit was divided into two platoons. Half of us worked the Algiers yard and my half worked the road. The most dangerous part of the road work was having air brakes only on the first three to six cars. The rest of the braking power came from sleepy Algerian brakemen manning handbrakes on the other cars. With mountain grades up to 2.4 percent, this was a worry. When you whistled for brakes, any brakeman who hadn't fallen asleep would crank up his brake. I had two runaways that I managed to keep upright. My reaction to the problem was to go down the train after I got stopped and feel for cold wheels on any car with a brakeman and bounce rocks against the doghouse they rode in. That woke them up, but good, and the rest of the trip would go much better.

The most pleasant jobs were the hospital trains because they had lower tonnage and



U.S. ARMY

With the turntable motor disabled, civilians led a hand in turning Army S160 2-8-0 No. 2208 at an unidentified location in France.

air brakes on all cars. They also got preferential dispatching, especially westbound when they were loaded with injured troops. I give the nurses on those trains a lot of credit. They didn't have to be there. One we especially took a liking to would come up and ride the engine with us, but only eastbound when there were no troops aboard. Westbound, they were all business.

The railroad itself had the best-manicured roadbed I've ever seen—before or since. Even the ditches were formed with stone and cement, and every place the grade changed even a little, there was a sign showing the amount of the grade uphill or downhill and the distance to the next change.

Because it didn't rain much, we didn't have slides or washouts, but once in a while the weather did us in. While we were hauling a trainload of ammunition loaded in gondolas covered by heavy tarps, a sandstorm caught us and tore the tarps loose on the upwind side. When the tarps whipped over to the other side, the lineside poles tore them off. I imagine there were a lot of new Arab tents after that.

Another time, we got into such a downpour from a thunderstorm that it plugged my sanders and we lost all traction. Since we were on the last curve of the hill, rather than double into the next station (taking half the train at a time to the next stop), the fireman and I got down and put pieces of ballast on the rails all the way around the curve. By then we were soaked to the skin so we stripped to our shorts and hung our clothes over the boiler head to dry. We rolled into the next three stations looking like a couple of frustrated nudists, but at least we didn't have to double.

Usually winter weather was comfortable, but, oh, the summer. We had to wear at least two layers of clothes or we'd fry when we opened the fire door—which was often on those coal-burners.

At first the work hours were murder, but after a month we were so well organized that delays were cut and it very seldom took more than eight or nine hours to get over the division. One the day our commanding officer (CO) came up to the engine before we left; he told me I could forget the speed limit as we were on a loaded hospital train with a ship waiting for it in Oran. I made the run in 2 hours and 40 minutes. Fun.

On the other trains, I pretty much followed the rules. I couldn't see where I would be doing the war effort much good by spilling trainloads of supplies all over the landscape. A few of the other guys would have been better off thinking that way, too.

I had a steady fireman off the Pennsylvania Railroad. He was six years older than I was and had six years of firing experience, but he didn't want to be an engineer. I supposed he didn't want the responsibility. I used to let him run the engine part of each trip while I taught myself to fire coal, which was fun as long as I didn't have to do it all the time. Once, when he was firing, he yelled across the cab, "You're kind of young to be running a passenger train, aren't you?" I yelled back, "Hell, I'm not even qualified to *fire* one back home!"

Most of our officers were railroaders in civilian life and knew their jobs, which was more than most of the Army could say. Nothing much ever got me into trouble with them—the worst thing was running out of water one night. The upshot of that was that the CO, a real nice guy off the Missouri Pacific, told my fireman to henceforth use the tank hook to measure the water and not depend on eyeballing it with a flashlight.

I did have one engine derailment when I was putting an engine away at the Borges roundhouse. The Algerian roundhouse foreman was raising all kinds of hell, but we hadn't been there long enough for me to understand French (the most common language in this colony of France), so I just walked away. Naturally, the next day I was

After 14 months in Algeria, it seemed that the war was leaving us behind, and we were anxious to move on.

U.S. ARMY

Felton F. Cassel, an Erie hogger out of Marion, Ohio, in civilian life, pilots a Whitcomb diesel "somewhere in Europe" in '44. On his cab are chalked BERLIN OR BUST and "PRR."

up before the Old Man, who wanted to know what happened. I told him the facts and said, "My orders were to leave the engine at the Borges roundhouse and deadhead on up to Setif, which I did. There wasn't any mention about whether the engine should be on the rails or the ties." He laughed like a son of a gun.

And there was a major in A Company who once wanted to court-martial me. We had dropped a soft plug, a fusible plug that blows to extinguish the fire if the water in the boiler gets too low. After we were towed in, I heard my road foreman of engines talking to the major on the phone. The road foreman slammed down the phone and said, "That son of a bitch wants to court martial you!" But a couple of days later, two other guys had soft plugs let go, too, so I was off the hook. The whole problem arose when the shop ran out of soft plugs and the men tried pouring their own. It didn't work.

After 14 months it seemed the war was leaving us behind, and we were getting anxious to move on. The hang-up was the January-May 1944 battle for Monte Cassino in Italy, but we finally got our chance. The day we left Mennerville a lot of the guys got so drunk that the Old Man blew his cool, and I didn't blame him. One of the guys lost his clothes, shoes and all, and wound up getting on the train stark naked.

In Oran, we were put on a British troop transport for the voyage to Naples. It wasn't crowded, the seas were calm, and the Brits treated us like kings. Besides the three square meals each day, they brought us tea and crumpets.

ITALY

ROMAN HOLIDAY, WITH DIESELS

We unloaded in Naples over a capsized ship being used as a dock and were put up in a warehouse for a couple of days before getting on a train for Rome. After Mennerville, we figured wherever we went next would be an improvement, and we were right. Except for a couple of bomb craters in the Tiburtina yards, Rome wasn't damaged a bit. We moved into a lower level of the beautiful main railroad station. This was handy, but our level wasn't finished and the floors were still dirt.

Out of Rome, we ran brand-new diesel locomotives. Diesels were nowhere as much fun to run as steam, but after coming off of coal-burners in the African desert they seemed luxurious with their swivel seats and backrests, soft cushions, windshield wipers, and heaters. They were little center-cab jobs built by Whitcomb with multiple-unit connections. We could run as many as seven units from the one cab, but normally we used only two because there were no remote alarms for malfunctions in the other units. We put the fireman on the second engine to watch the gauges and hoped he didn't fall asleep.

My first trip on the road started out poorly. Still in the yard, I was going about 5 mph when a yard engine came steaming around the curve too damned fast. He evidently thought the track was clear, but I was on it with 90 cars behind me. I had time to get stopped, all the while blowing the horn to get his attention, and my crew and I bailed and watched him hit. Except for a broken buffer spring it didn't hurt our diesel at all, but it totaled that steam engine. One of the brakemen was riding a carload

of steel rails and had no warning whatsoever. One of the rails tore through his leg and put him in the hospital for a month.

The center-cab configuration on the diesels sometimes caused a bit of confusion about which way the engine was pointing, something the conductors and brakemen had to be aware of. One night at a station about 20 miles north of Rome, I kept getting back-up signals from the conductor. I knew the last car was against a bumper and we couldn't go in that direction, but I poured on the power anyway figuring he'd see the error of his ways. After about three times doing that I could see his lantern come bobbing along toward the engine. When he got close I heard him holler an expletive, then he turned and walked back to give the correct signal.

After a few weeks, I was called on to switch the Littoria yards about 6 miles north of Rome. We worked from 4 o'clock in the morning to 9 at night. The next day, same thing: 17 hours on duty. The third day, my fireman had had enough and took sick leave. I tried to talk him out of it because it stood to reason they couldn't expect us to work like that indefinitely, but he was stubborn and they replaced him.

My prediction came true. They put on two more crews, gave us a new diesel, and moved us to Littoria to live with a heavy shop battalion that had a dream of a mess sergeant. We worked eight hours a day and rotated shifts each week. It turned out to be the best job I had overseas and, to top it off, the main highway into Rome went right by the front door, so all I had to do was stick out my thumb and in a few minutes I'd have a ride to town on an Army truck.

FRANCE

BACK TO COAL-BURNERS

We went by rail to Naples and boarded a troop ship for Toulon, France. The ship was bare-boned, to say the least. We ate K-rations and slept on wooden shelves. If you were in the innermost recesses, you had to crawl over several other men to get out, which wasn't easy in the pitch dark when I had to go on midnight guard duty.

We were in Toulon a day to unload tanks and trucks, and then we sailed on to Marseilles to board a train for Dijon. From there, some of us were sent to Vesoul to take inventory of every car in the yard and its contents. We lived in an empty hotel with no heat but were there only a week before going back to Dijon to run coal-burners, which was a comedown after our comfy diesels. But at least nobody was getting shot at, and the track and roadbed were in good condition.

It didn't seem like the operation was well-organized, though. Case in point, they once sent four engine crews to Is-sur-Tille with the idea of working short turns from there to Chalindrey, but for a week we didn't do a thing. Then they sent the firemen back to Dijon and left us engineers idle for another week or so. In Is-sur-Tille there was a crane to load coal into tenders, but the engineering battalion needed their crane operators back. The lieutenant in charge asked us if we'd like to learn to run a crane, and we jumped at the chance to do something useful, so for the next month we were crane operators. We lived in tents that had little coal stoves, and we were quite comfortable even with snow outside. In a month our CO found out he was missing four engineers and we were sent back to Dijon.

My next assignment was to work north from Chalindrey, where we lived in boxcars

U.S. ARMY

A postwar photo shows the devastating effects of Allied bombing on the main passenger station in Munich, Germany.

and hung around more than we worked. It was there that I received a letter saying my dad had cancer. I was very close to him, and my relatives applied for an emergency leave, but of course that was impossible.

We had a few oil-burners in France, but the only time I got to work on one was one night when they ran out of firemen. I was the only engineer qualified to fire oil-burners, and I jumped at the chance. We also had a few GI engines that were equipped with air brakes instead of steam brakes, so I guess the Army saw the error of its ways.

Seven of us engineers were sent to a town named Saarburg to teach engineers from another outfit to run diesels. There we found it entertaining to watch a lone German aircraft we called "Messerschmitt Revere" come winging through every afternoon around 4 o'clock. For a long time he never did any damage. I guess he was afraid we'd shoot at him or something. But one day he inexplicably shot up our kitchen. The mess sergeant was mad as all get-out because some of his big kettles were ruined. Nevertheless, Messerschmitt Revere was given a chance to prove he meant no harm, and he never did any more damage; he didn't even go through the motions.

After a few days we got orders to return to Dijon, so we loaded our stuff in a boxcar and headed south. It was late at night when we got to Dijon, so I volunteered to stay with the boxcar while the guys rounded up a truck. I fell asleep and was awakened when the train started moving. "That's not right," I thought, so I dropped off and caught the caboose to ask the French conductor where the train was going. He said to Lyon, and I said our car stayed here, and he said no, and I said yes, and he said no. I reached up and pulled the air, bringing the train to a sudden stop. He got the message that maybe I knew what I was talking about and called for a switch engine to take our car off. I said *merci beaucoup* and went back to bed.

GERMANY
RAILROADING AMONG THE RUINS

We left Dijon for Germany over the same railroad we had been working on for the last six months. Passing through Nancy and Metz, we began to see how badly the Air Corps had treated the Germans, especially when we got to Mainz on the Rhine River. The whole city was just a mass of rubble. It was amazing to us at the time, but we got used to it, because most cities we saw were in the same condition. The small towns weren't hurt much unless they contained a factory or a big railroad yard.

Along about mid-morning we got to our destination, Hanau, and were put up in an abandoned bicycle factory. There were no complete bicycles, but all the parts were there, so in a couple of days a lot of the guys had bicycles to ride. Soon we were moved to a schoolhouse where we spent the remainder of our time overseas.

Our division extended from Frankfurt north to Bebra. Frankfurt was another city that was practically demolished. From the cab of a locomotive you could see clear across any area or block in town. There were just skeletons of buildings, if that.

I think the most trashed railroad yard we worked through was at Fulda. It was a big yard, and we had to creep through it at about 5 mph. Fulda was roughly situated on what later became the boundary between East and West Germany, so about half of our railroad became East German. Our Army dismantled a lot of East German factories, and we hauled trainload after trainload of equipment back to the Western sector before the Russians got wind of it and complained. Our side gave in, and we had to haul it all back. Ah, but we didn't mind, for we were being paid handsomely: $98.28 per month, plus keep.

My first job to Fulda was in the middle of the night on track I'd never been over. We picked up a whole trainload of POW's. My first impression was that Hitler was scraping the bottom of the barrel. They were mostly old men and teenagers. I imagine most were mighty happy to have the war behind them, but two of them ran for it and our guys shot both of them.

The railroad was interesting, mostly double track and in very good shape between the bomb-damaged places. The yards were wrecked terribly, and some of the bridges were pretty weakened. There was no speed limit, so we used our own judgment. In France we used the French rulebook with a French engineer in the cab as pilot, but here we used our own rulebook. We ran mostly German engines, which were in quite good shape.

Twice I was called for special duty requiring full dress uniform, a pain in the neck rather than the privilege some people thought. First I had to ride General Eisenhower's private train, supposedly to expedite the trip, but actually I didn't do a darn thing. It was interesting, though. I spent most of my time in the radio car with a lot of very sophisticated equipment. I never did see the general.

The other time they got me out of bed after four hours sleep to ride Gen. Carl R. Gray's private train. General Gray was the big cheese of the whole Military Railway Service. When his train pulled in, there I was in my Sunday best, standing with our CO, a colonel. The general looked at my bloodshot eyes and asked me how much sleep I'd had. I told him the truth, which maybe I shouldn't have, and he told the CO to let me go back to bed, adding that if he couldn't find his own way over his own railroad he'd resign his commission. I had a heck of a time keeping from laughing out loud. That probably would have been a mistake because, by the look on his face, the CO was feeling put down. But apparently there were no hard feelings, because the last thing the CO did when the war was over was to put me in charge of a detach-

We began to see how badly the Air Corps had treated the Germans, especially when we got to the Rhine River.

WILLIAM A. MARGOLIS

The Deutsche Reichsbahn yards in New Munster lie in ruins. Author Hoffman found German track and equipment to be in good shape—away from bomb-damaged areas.

ment of 15 men down at Bischofsheim.

One interesting trip was hauling an enormous railroad gun. I looked it over and counted 40 wheels under the thing. The bore looked big enough to crawl into. I was told it would shoot over 40 miles, but what I know is that it was a mighty heavy piece of equipment. There was only the gun, the caboose behind it, and six empty flatcars between the gun and my engine to keep the gun and the engine from being on the same bridge span at the same time. With so few cars there wasn't much slack, and it was a pain to get started.

Another time I was called to take a streamlined passenger train from Bebra to Hanau. Oh boy, I thought, we'd be done in three hours or less, but when we got to Hanau they told us to take it over to the Frankfurt Nied roundhouse for repairs. That was only another 30 miles or so, but exactly where in the blue blazes was it? The guys in the yard office at Frankfurt laughed and said, "Throw that switch there and follow your nose." For hours we followed our noses. The rail was so light that it seemed like we were running on some kind of interurban line. The city of Frankfurt was miles behind us, but still we followed our noses until we came to a big four-track main line with a control tower. I climbed up and asked the Germans there where the Frankfurt Nied roundhouse was. They pointed back up the big main line toward Frankfurt and said, in effect, follow your nose. So we did and, sure enough, we finally came to the roundhouse. So our 3-hour job stretched into 18 hours by the time we got the engine back to Hanau. The problem turned out to be that the main line through Frankfurt was bombed out, so the only way through the city was that interurban line that went around it.

When German crews were put back to work, a GI rode along to tell them when to go and when to stop because we were still working under our rules. Normally the Germans were much easier to get along with than the French, but I had trouble with one engineer. When we were getting ready to leave Bebra, I got a brake-test signal from the rear end and I told the German engineer to set up the brakes, which he did. Then I got a release signal, so I told him to release the brakes, but for some reason he said no and shook his head. So I told him again, and again he wouldn't. So I reached over and did it myself, and he slapped my hand! This was one of the few times in my life that I got mad enough to fight, and I hit the guy as hard as I could, which was kind of foolish since he must have outweighed me by at least 75 pounds. He and his fireman could have tossed me off a bridge and swore I fell off. I guess the whole damn war went through my mind at that moment, including memories of my nephew killed in Tunisia. Anyway, for the rest of that trip the German engineer was docile as a lamb.

Normally the Germans were much easier to get along with than the French, but I had trouble with one engineer.

One of my trains consisted of 90 cars hung behind a single GI diesel. It was way too many, and we couldn't even get the air pumped up until the head brakeman and I took a pocketful of hose washers and walked the full length of the train plugging leaks. We finished in an hour and got out of the yard, but I could only get 20 mph with a wide-open throttle. When we got to a hill I just gave up and told them one engine just couldn't hack it. We set out half the train and doubleheaded with the steam engine that had been following us. I never did find out who made up that train, but he should have known better.

Another day I was deadheading from Hanau to Bebra riding the caboose. At Schluchtern the flagman had to go back to flag, so I went back with him. When the whistle called us in, we hotfooted for the caboose but we didn't quite make it and the train left us behind. Luckily, there was a GI ration truck at the station, so we hitched a ride over to Fulda. You should have seen the look on the faces of the engine crew when they pulled in and saw us standing there. We beat them there by a good half hour because of the destroyed Fulda yard.

When the war ended and things got less hectic, they gave the Germans back their railroad and put us to work riding herd on American shipments, which I imagine was mostly to keep us busy so we wouldn't get into mischief while waiting to go home. It was a pleasant stay in Bischofsheim. We had an 11-room house all to ourselves, plus four rooms over the railroad station that we converted to office space and a mess hall. We even had housekeepers, two Russian women; one of them had an 18-year-old daughter, but Mama kept a close eye on her.

Then I met a really pretty girl in Bischofsheim who was living with her aunt and uncle because she had lost both her parents and her brother in an incendiary raid up at Kassel. We weren't supposed to fraternize with the Germans, but I took her to movies and for walks in the moonlight anyway. What the heck, the war was over. ■

★ Wartime Advertising ★

Copyright 1944, The Pullman Company

"I shoulda kept my big mouth shut!"

He would have, if he'd read the Pocket Guide to Iran, which the War Department gave him when he started overseas. It says:

"When in an Irani home, don't be too enthusiastic about admiring some object. Your host might . . . give it to you."

But the corporal *did* enthuse. And now he's stuck for part of next month's pay besides, because the book goes on:

"If an Irani makes you a gift, the proper thing to do is to give him one of equal value in return."

That's the *custom of the country.* He learned it the *hard* way!

There's an *American* custom that many boys have learned the *easy* way since they went in service. It's the custom of *traveling in comfort*—which troops in training do at the rate of 30,000 every night.

To many of them, *going Pullman* is a *new experience.* And that is just what it will be to *everyone* when the war is over and *new Pullman cars* bring *new* comforts and conveniences.

Duplex-roomette cars, for instance, on almost every train—such compact little gems of comfort and convenience that it will be like traveling in your own living room, by day; like sleeping in your own bedroom at night—as you speed safely and dependably toward your destination.

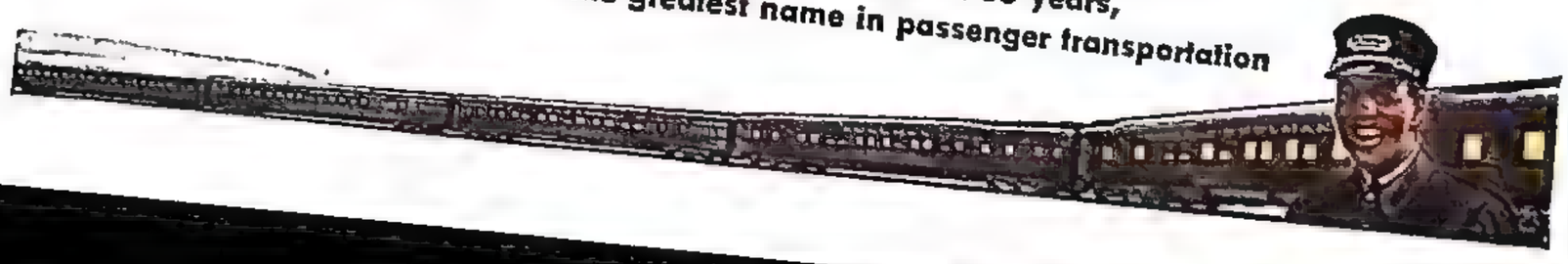
Pullman plans that *duplex-roomette* space will cost little—if any—more than lower berths cost now. And there'll be another new type car—the *coach sleeper*—providing Pullman comfort and convenience for *less* than the present rate for a berth in either standard or tourist sleeping cars.

That's what Pullman has in mind for the day when America can travel for pleasure again—in the *comfort* that's the *custom of the country.*

★ LET'S ALL BACK THE ATTACK WITH WAR BONDS ★

PULLMAN

For more than 80 years,
the greatest name in passenger transportation



MICHAEL K. ROGERS COLLECTION

The Pullman Co. in 1944 ran a series of ads featuring U.S. servicemen grappling with the unfamiliar customs they encountered in foreign lands. The campaign likened the new experiences of the GI's to the new experiences travelers would have after the war in Pullman's new types of rooms.

Illinois Central's mysterious freight 4-4-2's

A wartime rebuild of 11 Atlantics was one of IC's few motive-power missteps

BY **JIM WARSHER**

The 4-4-2 type locomotive, employed mainly in passenger service, takes its name "Atlantic" from an engine built in 1894 by Baldwin for the Atlantic Coast Line. Generally, the 4-4-2 replaced 4-4-0's and the few high-drivered 2-4-2 Columbia types introduced by Baldwin in 1893. A 4-4-2's four-wheel lead truck gave stability at speed and allowed a longer, better-steaming boiler than the other types.

Numerous railroads indulged in Atlantics around the turn of the century, led by the Pennsylvania and the Santa Fe. The type's popularity soon waned, though, as heavier steel passenger cars became the norm and larger 4-6-2 Pacifics came to be the standard passenger power. Baldwin in 1916 delivered an order for one 4-4-2, No. 9, to the coal-hauling Interstate Railroad in far western Virginia, and it is thought to have been the last Atlantic built new in the United States until the four famous Milwaukee Road class A 4-4-2's were delivered by Alco during 1935-37 for high-speed service on the new *Hiawatha*.

Meanwhile, other railroads had been beefing up their Atlantics. Southern Pacific's class A-6 engines, rebuilt in 1927-28 from earlier 4-4-2's, are candidates for an "Atlantic hall of fame," as are the Milwaukee's A's and Pennsy's 83 E6's. Both Santa Fe and Burlington took advantage of classified repairs to upgrade their Atlantics, and Missouri Pacific's Sedalia (Mo.) Shops had an ongoing program of improvements to MoPac's 32 4-4-2's. One, the 5513, had its 79-inch spoked drivers replaced in 1942 by 73-inch Boxpok drivers with greatly improved counterbalancing, and this muscular little powerhouse, billed as a light, fast freight engine, was considered successful. It was not duplicated, however.

Unusual is Illinois Central's experience with 4-4-2's during World War II. IC had 26 Atlantics, one from Baldwin in 1902 and 25 from Rogers built over the next two years. They were typical 4-4-2's with 21x28-inch cylinders, 80-inch drivers, and an engine weight of about 210,000 lbs., of which about 52 percent was carried on the two driving axles, giving a factor of adhesion of 4.2—a smooth-riding, manageable engine.

IC's Superintendent of Equipment, Lee Robinson, had come from the Frisco in March 1930, and throughout the Depression, as many railroads closed shops and furloughed workers, had found ways to keep IC's shops humming with useful work, scrapping hundreds of old and obsolete locomotives while rebuilding hundreds of others. By 1938, he was put in charge of all locomotive design and repair for the system, reporting to General Superintendent of Motive Power G. C. Christy, a Mississippian and career IC man. Tremendously popular up and down the railroad, Christy is considered by many to be the father of the renowned rebuild program at IC's Paducah (Ky.) Shops, a program so vast in scope and so efficiently organized that its diesel locomotive products from 30 years ago continue in the 21st century to do useful and important work more than a half century after Christy's death.

As on other roads, most of IC's passenger trains were beyond the capabilities of its 1000-class Atlantics following the introduction of steel rolling stock. Confronting a wheel arrangement totally unfamiliar to him, Robinson quickly went to work on IC's Atlantic fleet. As war raged in Europe, he scrapped 15 of the graceful engines, 13 in 1939 and 2 more in '41. The remaining 11 were drafted into a radical rebuilding program, conducted at the Centralia (Ill.) Shops between May 1942 and May '43. In it, the surviving 4-4-2's were rebuilt to "freight" Atlantics for use in branchline service, which in turn would release power needed urgently for other service.

C. W. WITBECK PHOTO, FROM H. K. VOLLRATH COLLECTION

Modernized in appearance from the 1903 look as-built by Rogers (example pictured on the following page), IC 4-4-2 1003 steams on an employees' train at Nonconnah Yard at Memphis, Tenn., in June 1936.

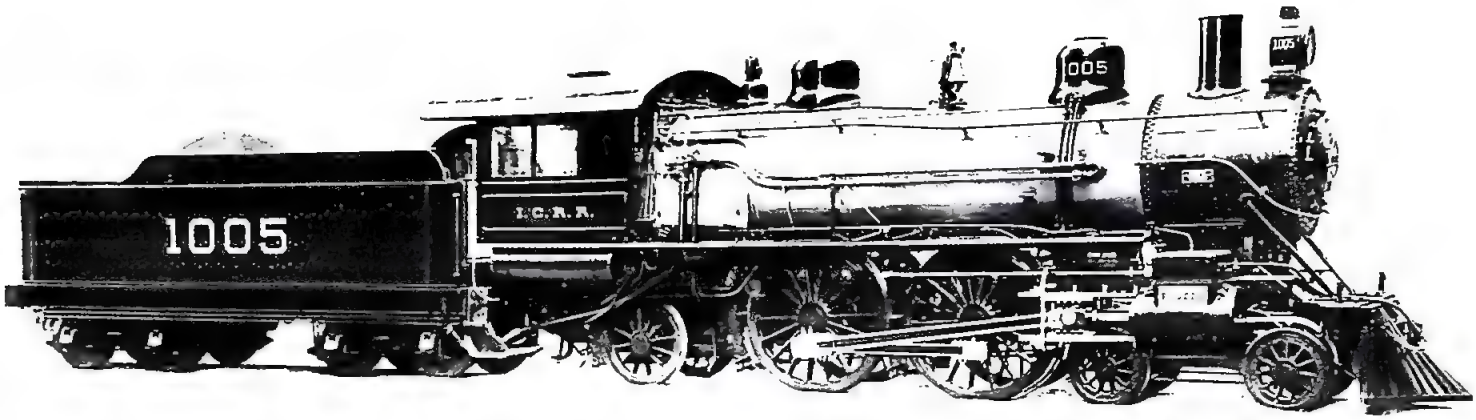
H. K. VOLLRATH COLLECTION

This rare photo of a rebuilt IC Atlantic shows 2006, converted from 1016, at Greenwood, Miss., in October 1942.

IC was hurting for branchline power. The road once owned 245 Ten-Wheelers, but by 1937 had only 11 left, along with 38 2-6-0 Moguls and 138 2-8-0 Consolidations, down from an all-time total of 359. Many of the Consolidations were in use as switchers.

Of Illinois Central's 180 remaining 4-6-2's (in 1937), 70 were rebuilt at Paducah between 1941 and 1943, swapping their 75- or 77-inch drivers for 61-inch versions and receiving many new and improved appliances. Ponder it—Paducah shop forces completely rebuilt one Pacific every 10 days for two years, alongside all the other work they had to do. The rebuilt Pacifics' engine weight was up to about 248,000 lbs., but this was shared among all axles—the pilot, trailer, and the three coupled axles—resulting in a weight per coupled axle of only 25.6 tons, yielding a factor of adhesion (FoA) of 4.81. They were very sure-footed locomotives.

By comparison, the Atlantic project resulted in a 217,000-lb. engine, each coupled axle bearing a load of 32 tons. (A search for an official IC diagram of the rebuilt engines was fruitless. Some figures are necessarily estimates based on information at hand. Railway & Locomotive Historical Society *Bulletin 140*, which describes these locomotives, does not furnish details of weight carried on coupled, pilot, or trailing wheels.) Robinson decided that the Atlantics' new 63½-inch drivers and 21x28-inch cylinders needed a boiler pressure of 225 psi versus the previous 4-4-2 working pressure of 185. The rebuilds show a tractive force of 39,500 lbs., using the unconventional IC formula of 0.90 times boiler pressure, times cylinder diameter squared, times stroke, divided by driver diameter. (IC figured at 90 percent owing to the supe-



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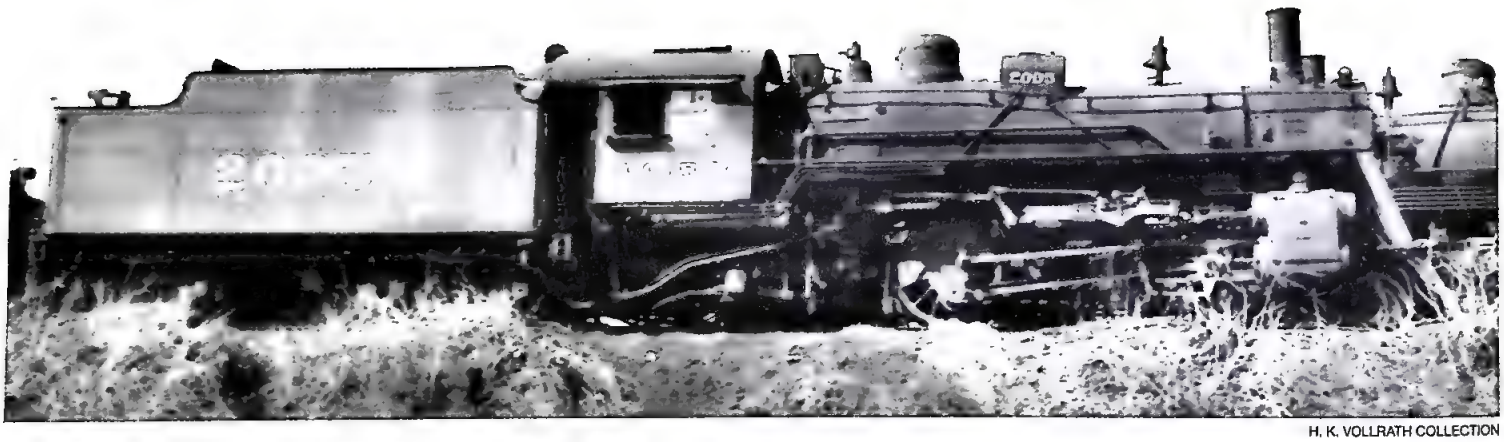

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Contrast the as-built appearance of IC 1005 in her Rogers builder's photo from the early years of the 20th century (top) with the look of rebuild 2005 in a rare view in the dead line near the road's big shop at Paducah, Ky. (above), in September '44.

rior power output of its boilers; the generally accepted American practice was to figure at 85 percent.)

As it happened, though, the forces of mischance conspired for Robinson's draftsmen to overlook the incipient factor of adhesion in the calculations which went into the specifications for the "freight" Atlantic rebuild program, and Illinois Central got stung. As set for service, the FoA for engines 2000-2010, the rebuilds, was an embarrassing 3.24! (The first rebuild, No. 2000, actually had 22¼x28-inch cylinders, giving a theoretical tractive force of 44,000 lbs.)

Generally accepted locomotive design practice prefers an FoA of around 4.0. Less than 4 will mean the engine is slippery, and more than 4 could indicate the engine is over-boilered, which will make it wasteful of fuel and unnecessarily expensive to maintain. Chronic slipping, on the other hand, is wasteful, unsafe, and dangerous and is to be avoided by good design in the first place and, later, by good engine-handling. Bumping up the boiler pressure (from 185 psi to 225) is an expedient way to get more power without actually refining any details. Illinois Central boilers were known throughout the industry for their sound construction and copious power output, but unfortunately in this case, the boiler delivered its power to an engine that could not fully make use of it.

An ideal solution would have been to add a couple of tons of weight inside the frames. That would have given the engines more surefootedness at the rail. But the axle load was already 32 tons, so another 3 or 4 on the coupled wheels might restrict the engines from the places they were intended to go: cinder-ballasted, head-checked and battered 85-pound-rail branch lines with even lighter weight rail in side tracks. Adding a booster would have helped, too, but engines 2000-2010 were to be a low-budget, uncomplicated project.

IC's low-wheeled Pacifics, with their much lighter footprint, gave such consistently good service on IC branch lines that, unlike the 4-4-2's, they were not retired until IC was virtually dieselized—the last two were still at work on March 1, 1960! The poor-performing Atlantics, on the other hand, were first assigned to the branch lines of the Memphis Division and later confined to the Memphis Terminal Division. After World War II, the handsome but tragically flawed little 4-4-2's were soon shipped to Paducah for storage, replaced by low-wheeled Pacifics. The only available cure to the rebuilt Atlantics' problem, the gaining of additional weight on drivers, was denied them by the nature of their duties.

One reason the engines are considered mysterious, or obscure, by some historians is that photographs of the rebuilt ones are rare. Outshopped during wartime, they were soon scrapped at Paducah, during 1946-47. This "freight" Atlantic project was one of IC's few missteps in rebuilding motive power. The only other example among its steam programs was its conversion of one Lima 2-8-4 into a 4-6-4 Hudson for freight service. This, too, turned out to be a slippery creature deemed unworthy of duplication. ■

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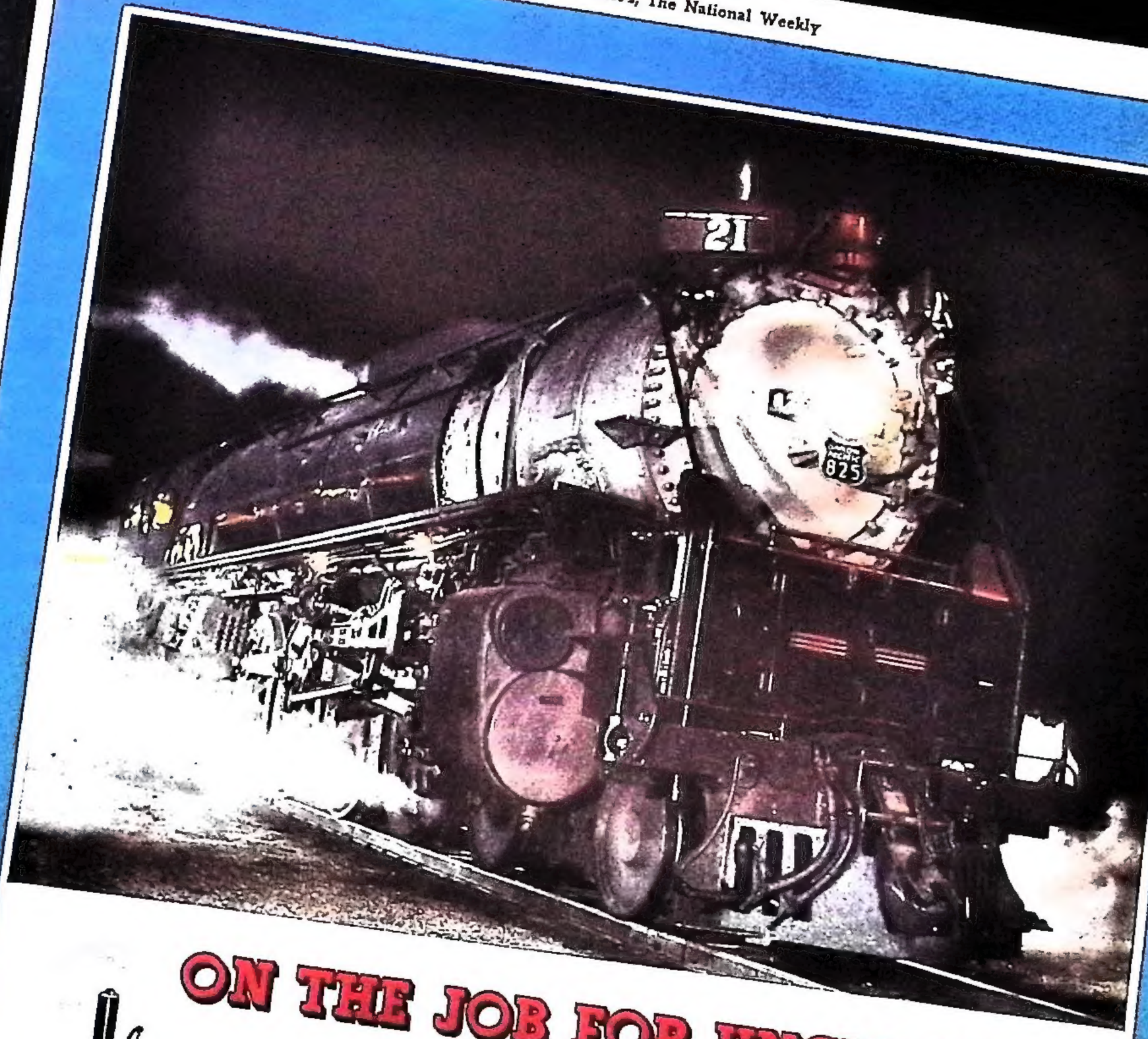

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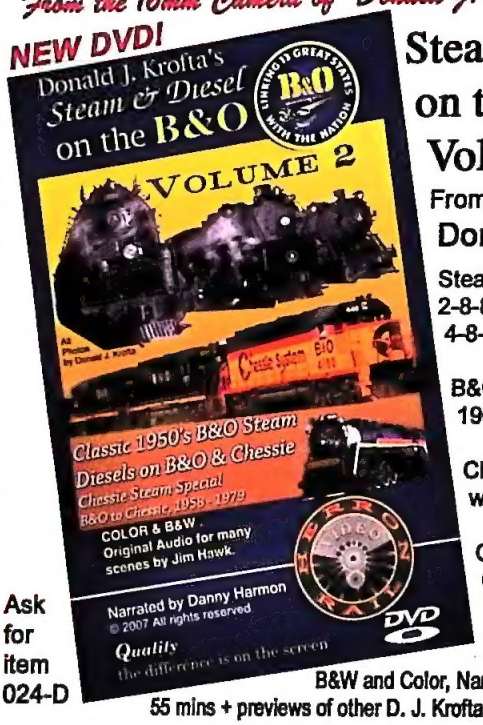
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